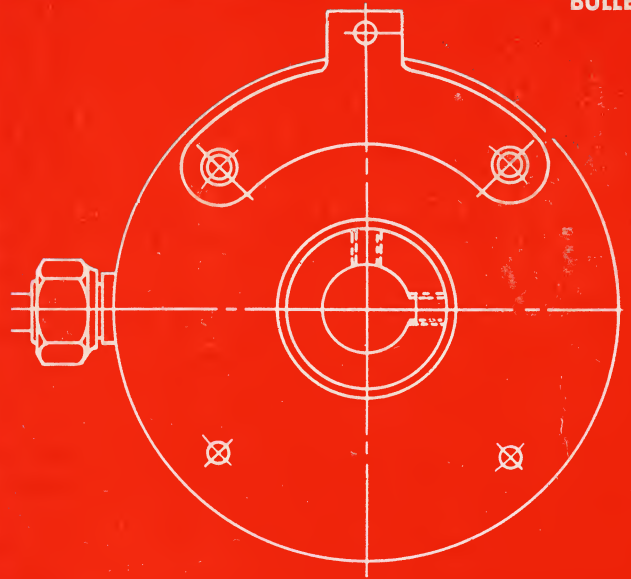


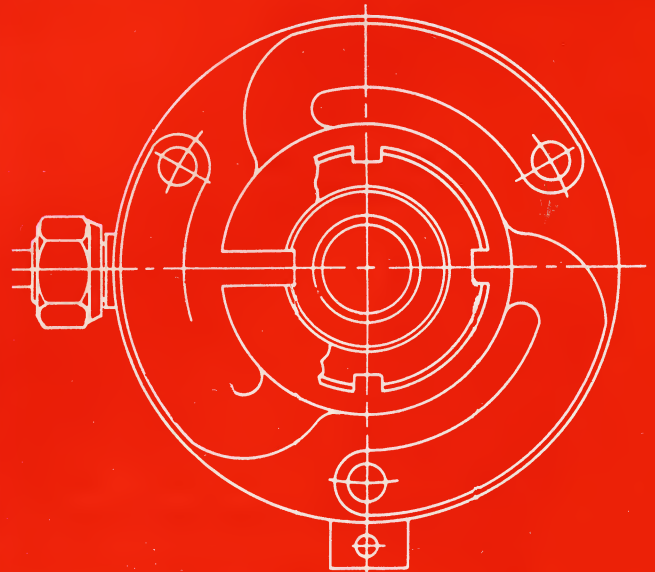
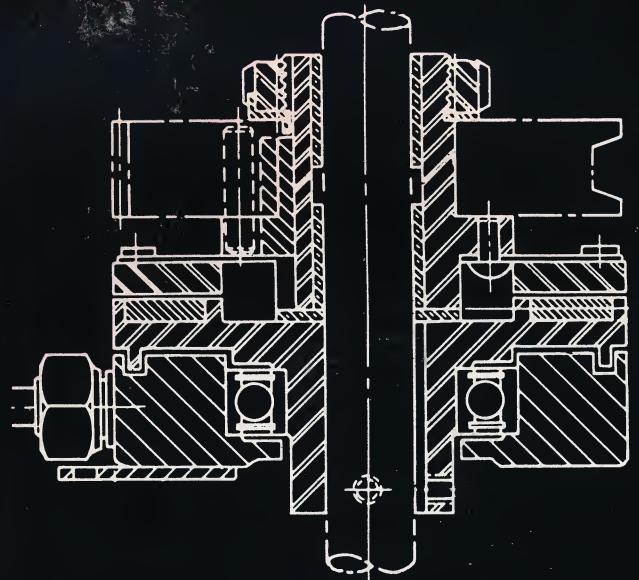


ELECTROID

C O R P O R A T I O N

manufacturers of electromagnetic

**BRAKES
CLUTCHES
CLUTCH COUPLINGS
CONTROLS**



This is ELECTROID CORPORATION

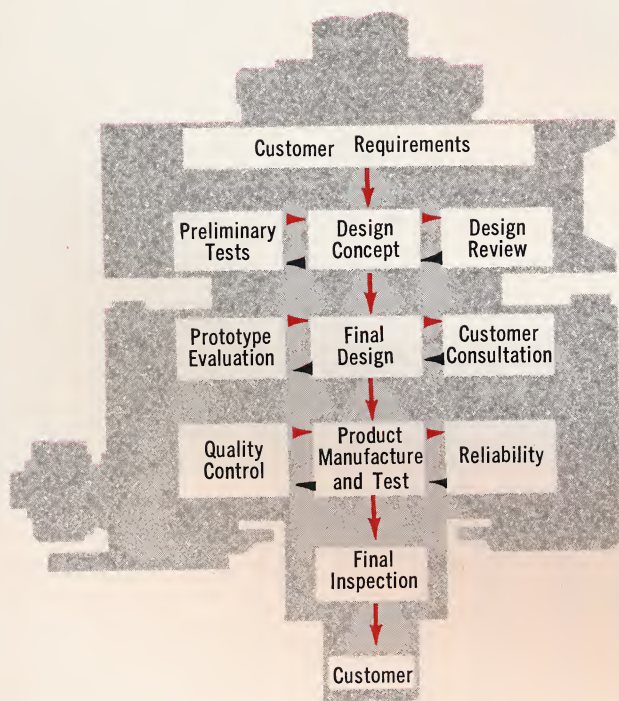
Electroid has specialized in precision electro-magnetic devices since 1949. Our modern Machine Shop embraces the best in equipment and tooling; the Coil Department produces the finest in precision windings. Electroid's Engineering Group is staffed by experienced and dedicated men capable of solving your most difficult problem.

These, plus our Quality Control and Inspection Departments, combine to produce devices that meet your most sophisticated needs.

Electroid's Brakes and Clutches provide you with the ideal method for transmitting controlled mechanical motion—ELECTRICALLY. They may be designed into your equipment to give centralized control for starting, stopping, positioning or jogging. Designs are simple and trouble-free. Fast response, high reliability, accuracy and zero backlash provides you with the type of control necessary in today's automation.

Electroid Solenoids are found in many of our prominent missiles . . . Bullpup, Centaur, Hound Dog, Minuteman, Nike-Hercules and Zeus, Polaris, Saturn, Scout, Atlas and Titan—also on satellites . . . Apollo, Advent, Jupiter, Nimbus, the Astronomical Observatory (O.A.O.) and X 15 Aircraft.

The dedicated and talented people at Electroid, as well as Factory trained Engineering Representatives in principal cities throughout the Country, look forward to helping you.



**FLOW DIAGRAM FOR
NEW REQUIREMENT**



Write for Solenoid Catalog

SERVICE WARRANTY

The Electroid Corporation guarantees each new part manufactured against defects in material and workmanship when the part is used as recommended, for a period not to exceed one year from date of shipment. Under this guarantee, Electroid's obligation is limited to repairing or replacing (whichever it deems advisable), such part which, upon examination is found to its satisfaction to be defective. In all cases, transportation charges must be prepaid.

If it is our responsibility, repair or replacement will be made without charge. No credit will be allowed for equipment which shall have received normal wear, been damaged, repaired or altered outside our factory.

Electroid assumes no liability for consequential damage of any kind. The purchaser, by acceptance of these products, assumes all liability of the consequence of their use or misuse.

Electroid makes no other warranty, whether expressed or implied, in connection with the sale or use of its products.

SEE OUR
SPECIFICATIONS IN
VSMF
MICROFILM CATALOG
FILE



ELECTROID CORPORATION

95 PROGRESS STREET • UNION, NEW JERSEY 07083

Telephone 201-686-8290

INDEX

	Page
ELECTROID WARRANTY	2
CLUTCH APPLICATION INFORMATION	4
HEAT DISSIPATION	5
FULL LOAD RUNNING TORQUE OF MOTOR	5
CLUTCH AND BRAKE SELECTION	6
SELECTION CHARTS	7
HOW TO ORDER	8

Model	Rated Static Torque Lb.-In. (After Burnishing)*	Page	
		Clutch	Brake
08	1.5	10-11	14
10	2.0	15-16	16
11	3.0	10-13	14
17	10 15	18-19 22-25	20
26	75	28-29 31-34	30
42	240	36-37 39-40	38
56	600	42-43	44
CB-SERIES Combination Units	15-600	26	

*BURNISHING . . . to insure long life and full torque capacity of the unit we recommend that armature plate and rotor surfaces be burnished as follows: Operate the unit at 35 to 50 per cent rated current and allowing continuous slippage until opposing surfaces are in contact. It is recommended that the burnishing operation is to be done on the installation.

CLUTCH APPLICATION TECHNICAL INFORMATION

Definitions:

TORQUE . . . the rotary effect of a force (usually expressed in ounces or pounds) exerted at the periphery and tangential to the axis of rotation. It is the force times the distance (usually expressed in feet or inches) at which the force is exerted and is expressed in pound-inches or pound-feet.

STATIC TORQUE . . . is the torque exerted when both members of a clutch or brake are stationary or rotating at the same speed. In a brake application, static torque exists only when the field is energized and the armature is stationary. In a clutch application, static torque exists only when the field is energized and the rotor and armature are rotating at the same speed . . . even at zero rpm.

SLIP TORQUE . . . is the torque exerted when the parts of the clutch or brake are rotating at different speeds. In a brake application, slip torque exists when the field is energized with the armature rubbing against the friction surface. In a clutch application, slip torque exists when the field is energized and there is a relative speed difference between the armature and rotor.

BURNISHING . . . to insure long life and full torque capacity of the unit we recommend that armature plate and rotor surfaces be burnished as follows: Operate the unit at 35 to 50 per cent rated current and allowing continuous slippage until opposing surfaces are in contact. It is recommended that the burnishing operation is to be done on the installation.

TORQUE DETERMINATION FOR A PARTICULAR APPLICATION

The clutch torque versus speed-difference charts show the pick-up torques available at various speed differences between the armature and rotor of the clutch. You will note that as the load is accelerated, the speed difference decreases and the torque capacity of the clutch increases.

The following formulae is helpful in determining the maximum torque required:

$$T = \frac{K \times 5250 \times \text{HP}}{\text{RPM}}$$

Where: T = torque in pound-feet
HP = horse power of driving motor
RPM = speed at clutch in RPM
K = service factor 1.5 Low Inertia
3. High Inertia

BRAKE TORQUE

$$T = \frac{WR^2 \times \text{RPM}}{308t}$$

T = Average Torque (Lb.-Ft.)
WR² = Inertia to be stopped (Lb.-Ft.²)
RPM = Speed of Shaft at Brake
t = Stopping Time (seconds)

If there are any questions on proper service factor use, please consult the factory.

A.C. VERSUS D.C. SWITCHING

Since speed of response of electric clutches and brakes is an important criteria, it is highly recommended that switching be done in the D.C. rather than the A.C. power lines. The advantage is particularly effective when switching from clutch to brake and vice versa. If switching is done in the A.C. side of the rectifier, a definite slow release of the clutch or brake will result due to the short circuit effect of the rectifier. This can cause a delay of one or more seconds in the release of the clutch or brake. This results in an undesirable "holding" effect when the circuit opening switch has been actuated.

Because of momentary high voltage due to the collapse of the magnetic flux from the inductance of the coil, switching contacts can be protected with a capacitor connected directly across the field terminals. For 90 volt D.C. operation, a .25 mfd, 600 volt capacitor is recommended. This suppresses the arcing at the switch contacts and gives even faster release time. The capacitor should be placed across the field coil rather than the contacts because capacitor failure might cause clutch or brake actuation.

HEAT DISSIPATION ABILITY OF FRICTION DEVICES

When there is slippage between friction surfaces, heat is created. Therefore, the temperature of a clutch or brake will rise higher and higher as more slippage takes place. Naturally, the greater the heat created, the greater the wear rate.

There is a limit of heat input or energy that a friction unit can take before excessive wear takes place. Greater heat dissipation abilities are available in a moving (rotating) unit and the higher the rpm the faster the heat will be dissipated.

The heat a friction unit will have to absorb can be calculated as follows;

$$E = 1.7 \times WR^2 \times \left(\frac{\text{RPM}}{100} \right)^2 \times C$$

where,

E = Energy or heat input — ft. lbs. per minute.
 WR² = Inertia — pound feet squared.
 RPM = Speed difference between friction surfaces (slip speed)
 — revolution per minute.
 C = Cycles — Number of starts or stops per minute.

The energy or heat input, speed and operating temperature relation charts are available upon request for each of the clutch sections. They are based on an ambient temperature of 75°F. and assume the unit is used in free air. Using the above formula, one can determine what size unit must be used to maintain temperatures below 250°F.

In computing heat dissipation, the average or mean speed (rpm) should be used, i.e. if one member is rotating at 2000 rpm and the other is at rest (zero rpm), the average speed is 1000 rpm and should be used in heat dissipation calculations.

Heat dissipation charts, for each of our units, are available by writing to the factory.

FULL LOAD RUNNING TORQUE OF MOTORS in pound-feet at various speeds

H.P.	3600 RPM	1750 RPM	1150 RPM	870 RPM
1/50	0.029	0.060	0.091	0.120
1/20	0.073	0.150	0.228	0.302
1/12	0.122	0.250	0.380	0.502
1/8	0.182	0.375	0.570	0.754
1/6	0.243	0.500	0.760	1.00
1/4	0.364	0.750	1.14	1.50
1/3	0.486	1.00	1.52	2.01
1/2	0.729	1.50	2.28	3.02
3/4	1.09	2.25	3.42	4.52
1	1.46	3.00	4.56	6.03
1-1/2	2.19	4.50	6.85	9.05
2	2.92	6.00	9.13	12.07
3	4.37	9.00	13.70	18.10
5	7.29	15.00	22.83	30.17
7-1/2	10.94	22.50	34.24	45.26

MAKING YOUR SELECTION

Miniature Clutch, Coupling and Brake

Our Chart A describes miniature units where the differences between "during" and "after" acceleration are so slight that it is impractical to show them separately. Select that unit which develops a greater torque, depending on your desired safety factor, then the maximum output torque of the motor (or driver) at selected RPM. Intersect the shaft speed with the applicable torque-inch pounds rating for the correct series.

Clutches

Clutch applications normally relate to two major categories as follows:

#1. The maximum torque that is required AFTER acceleration.

EXAMPLE: A milling machine which begins to cut after the tool has been brought up to speed.

#2. The maximum torque that is required DURING acceleration.

EXAMPLE: The mixing barrel of a cement truck which is loaded with ingredients before the rotating mixing action starts.

The selection charts will help pinpoint the correct series to use in your application. If your requirement is best described by category #1, use selection Chart "C". If it is best described by category #2, use selection Chart "B".

Intersecting the shaft speed with the horsepower rating will give you the correct series to use.

Brakes

The applicable chart to use is "C" for other than miniature applications as previously described. The two factors to be considered are the required horsepower of motor and the speed of the brake shaft. Intersect the horsepower and shaft speed columns for determining the proper series. The brake selected by this method will stop the load at least as fast as the time it took for the motor to bring the load up to speed.

In considering a location for the brake or clutch always bear in mind that the faster the shaft speed, the smaller the brake or clutch would be. Therefore, if possible, always choose the higher shaft speed.

Most brake and clutch applications will be covered by the use of our charts. However, if your problem requires a more specific solution please contact Electroid for immediate assistance.

MINIATURE CLUTCH, COUPLING AND BRAKE SELECTION CHART

CHART A

MAXIMUM PICK-UP TORQUE AT RATED CURRENT AT 100°F

CLUTCH OR BRAKE SHAFT SPEED IN RPM																						
Torque in-lbs.	0	500	750	1000	1500	2000	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	9000	9500	10,000
0	EC-08 SERIES																					
.25																						
.50																						
.75																						
1.00																						
1.25	EC-11 SERIES																					
1.50																						
1.75																						
2.00																						
2.25																						
2.50																						
2.75																						
3.00																						

Select unit which develops a greater torque, depending on desired safety factor, then the maximum output torque of motor (or driver) at selected RPM.

CLUTCH AND BRAKE SELECTION CHART

FOR 1/50 TO 3 HORSEPOWER

CHART B

MAXIMUM TORQUE REQUIRED DURING ACCELERATION

CLUTCH OR BRAKE SHAFT SPEED IN RPM																						
H.P.	100	200	300	400	500	600	700	800	900	1000	1100	1200	1500	1800	2000	2400	3000	3600	4000	4600	5000	
1/50																						
1/20																						
1/12																						
1/8																						
1/6																						
1/4																						
1/3																						
1/2																						
3/4																						
1																						
1-1/2																						
2																						
3																						

CLUTCH AND BRAKE SELECTION CHART

FOR 1/50 TO 7-1/2 HORSEPOWER

CHART C

MAXIMUM TORQUE REQUIRED AFTER ACCELERATION

CLUTCH OR BRAKE SHAFT SPEED IN RPM																						
H.P.	100	200	300	400	500	600	700	800	900	1000	1100	1200	1500	1800	2000	2400	3000	3600	4000	4600	5000	
1/50																						
1/20																						
1/12																						
1/8																						
1/6																						
1/4																						
1/3																						
1/2																						
3/4																						
1																						
1-1/2																						
2																						
3																						
5																						
7-1/2																						

"How to Order"

Example: — — — — — — — — — — BEC — 26 C — 8 N — 10 "I" (90V)

Coil Voltage — 28VDC, 90 VDC — Standards

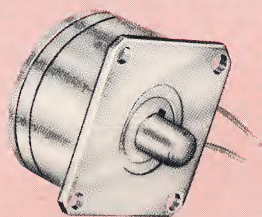
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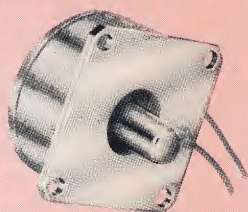
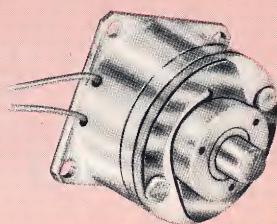
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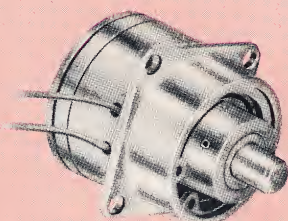
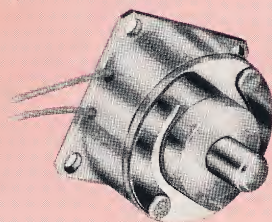
*Manufacturers of
Precision Electro-Magnetic Devices and Solenoids*



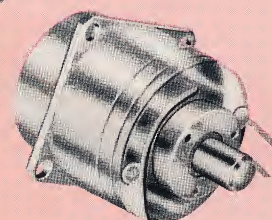
Flange
Mounted
Clutch &
Clutch Coupling



Brake



Bearing
Mounted
Clutch &
Clutch Coupling



Magnetic

CLUTCHES BRAKES

CLUTCH COUPLINGS

FOR FRACTIONAL HORSEPOWER

FEATURES

1. Zero backlash armature.
2. Precision Ball Bearings for shaft support.
3. Stationary field coil — no slip rings or brushes.
4. Coil—Epoxy resin encapsulated, vibration proof.
5. Choice of piloting on O.D. of Field Coil housing or on pilot diameter of flange.
6. Wide selection of shaft diameters.
7. Fast operating.
8. Unit can be readily modified to meet your space or mounting requirements.
9. For special applications, consult our Engineering Department for specific recommendations.

TECHNICAL DATA

	EC-08	EC-11
Rated Torque (Static)	2 lb.-in.	3 lb.-in.
Operating Voltage	90 V.D.C.	90 V.D.C.
	28 V.D.C.	28 V.D.C.
Rated Current: (90 V)	.043 Amperes	.05 Amperes
(28 V)	.175 Amperes	.16 Amperes
Weight: Armature Assembly	.28 oz.	.46 oz.
Rotor Assembly	.38 oz.	.55 oz.
Field Assembly	.77 oz.	1.2 oz.
Inertia: Armature Assembly	.0014 lb. in. ²	.0035 lb. in. ²
Rotor Assembly	.0021 lb. in. ²	.0069 lb. in. ²
Time of Engagement — 7 milliseconds or less		
Tentative Rated Speed — 10,000 R.P.M.		

EC-08

EC-11

SIZE

DIA.

7/8"

SIZE

DIA.

1-1/8"

RATED

TORQUE

2 LB.-IN.

RATED

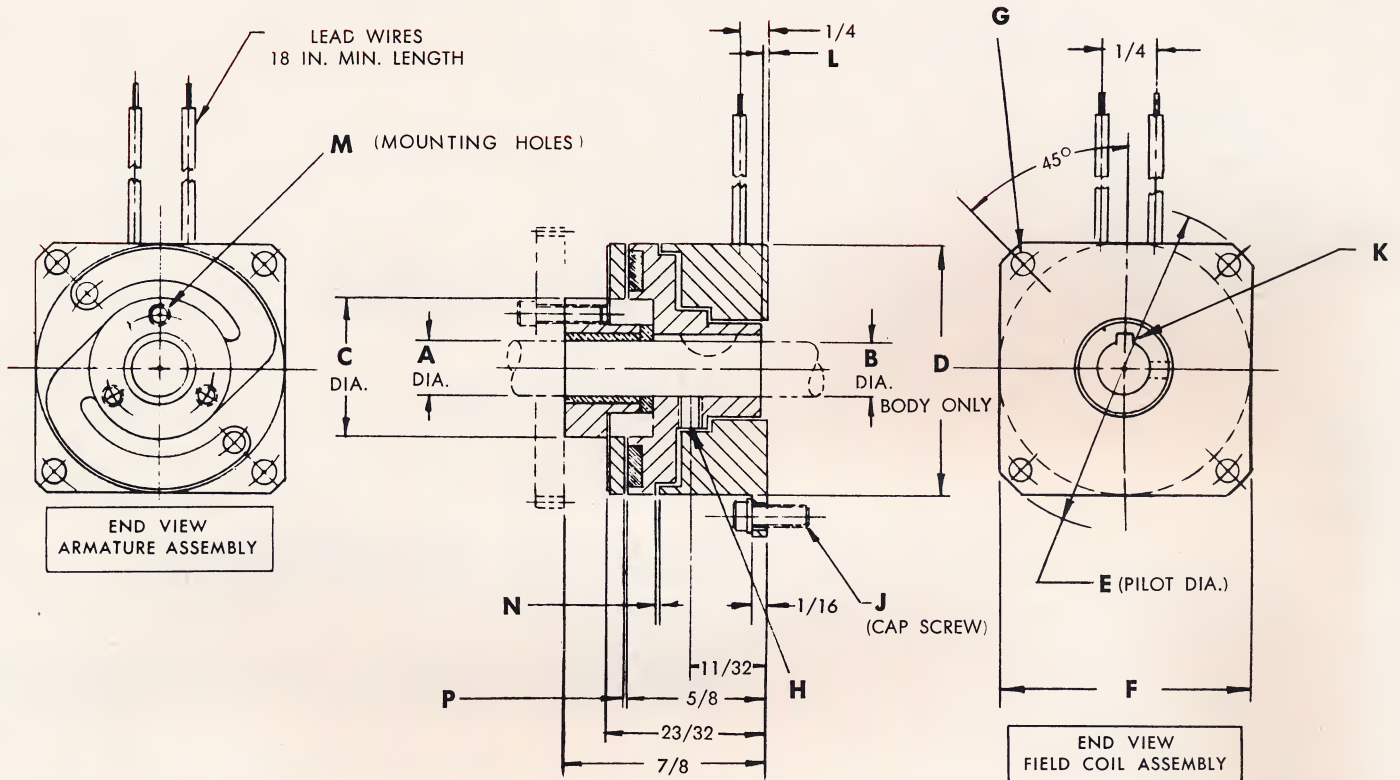
TORQUE

3 LB.-IN.



CLUTCH

FLANGE MOUNTED



PART NO.	A	B	C	D	E	F	G	H	J	K	L	M	N	P
ECA-08C-3	.1880 .1875	.1880 .1875	.558 .556	.874 .872	1.2235 1.2215	15/16 SQUARE	SEE NOTE #1	SEE NOTE #2	#3-48UNC-3A x 1/4	NONE	.062 .058	SEE NOTE #3	.020 .015	.015 .010
*ECA-11C-3	.1880 .1875	.1880 .1875	.622 .620	1.124 1.122	1.499 1.497	1-1/8 SQUARE	SEE NOTE #4	#4-40 SET SCREW SEE NOTE #5	#4-40 UNC-3A x 1/4	NONE	.020 .015	SEE NOTE #6	.020 .015	.015 .010
ECA-11C-4	.2505 .2500	.2505 .2500	.622 .620	1.124 1.122	1.499 1.497	1-1/8 SQUARE				1/16 x 1/32 KEYWAY FOR WOODRUFF KEY #201	.020 .015		.020 .015	.015 .010

*SPECIAL ORDER ONLY

NOTES:

FOR **ECA-08C** AND **ECA-08CC** CLUTCH AND CLUTCH COUPLING.

1. DIMENSION "G"—4 HOLES .102-.109 DIA. ON 1.072 B.C. LOCATED WITHIN .002 OF TRUE POSITION IN RELATION TO "E" PILOT DIA.
2. "H"—ROTOR OF BOTH CLUTCH AND CLUTCH COUPLING ARE SECURED TO SHAFT(S) BY ROLL PIN. HOLE DIAMETER—.078-.081.
3. DIMENSION "M"—3 TAPPED HOLES #2-56 NC-3B EQUALLY SPACED ON .437±.002 B.C.

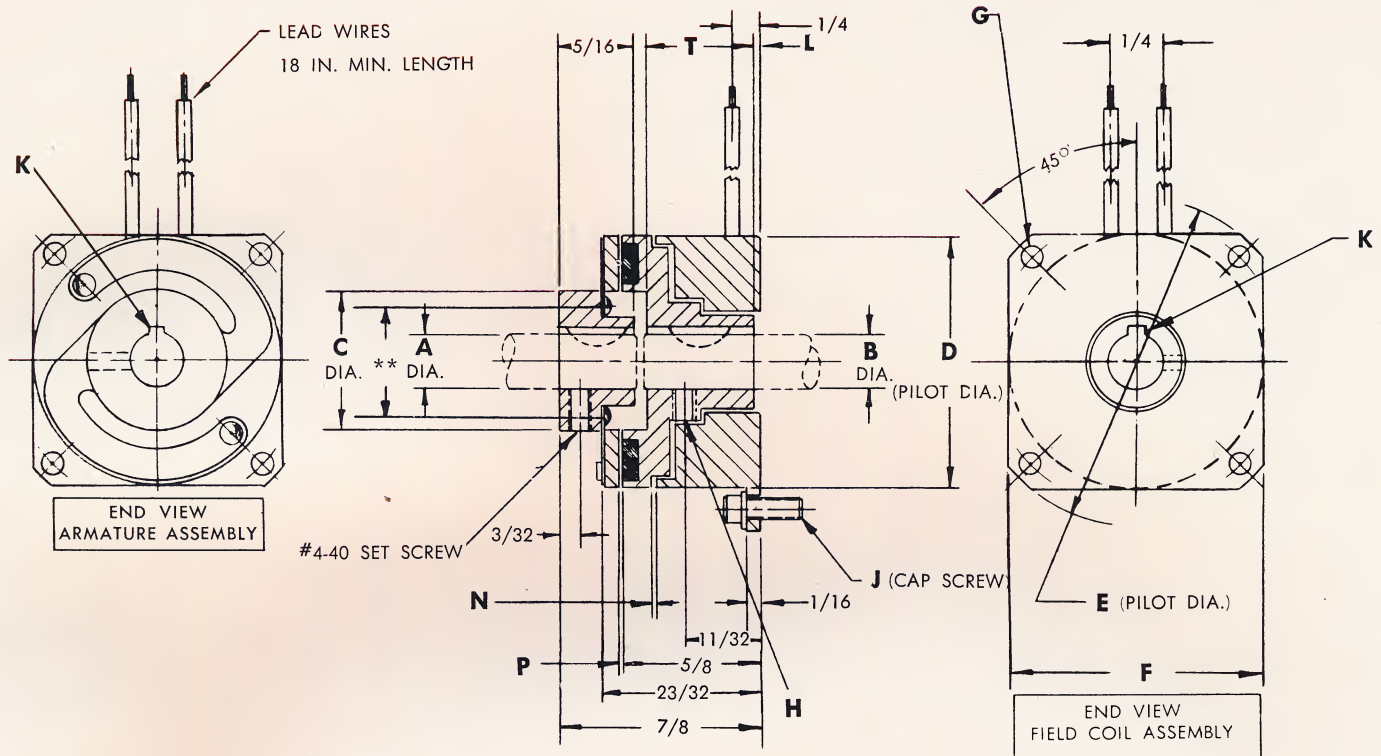
FOR **ECA-11C** AND **ECA-11CC** CLUTCH AND CLUTCH COUPLING.

4. DIMENSION "G"—4 HOLES .123-.130 DIA. ON 1.312 B.C. LOCATED WITHIN .003 OF TRUE POSITION IN RELATION TO "E" PILOT DIA.
5. "H"—ARMATURE HUB AND ROTOR ARE SECURED TO SHAFT(S) BY SET SCREW AND WOODRUFF KEY #201. 1/16 x 1/32 KEYWAY.
6. DIMENSION "M"—3 TAPPED HOLES #3-48NC-3B EQUALLY SPACED ON .500±.002 B.C.



CLUTCH COUPLING

FLANGE MOUNTED



PART NO.	A	B	C	D	E	F	G	H	J	K	L	N	P	T
ECA-08CC-3	.1880 .1875	.1880 .1875	.558 .556	.874 .872	1.2235 1.2215	15/16 SQUARE	SEE NOTE #1	SEE NOTE #2	#3-48UNC-3A x 1/4	NONE	.062 .058	.020 .015	.015 .010	.437
ECA-11CC-3	.1880 .1875	.1880 .1875	.622 .620	1.124 1.122	1.499 1.497	1-1/8 SQUARE	SEE NOTE #4	#4-40 SET SCREW	#4-40 UNC-3A x 1/4	NONE	.020 .015	.020 .015	.015 .010	.484
ECA-11CC-4	.2505 .2500	.2505 .2500	.622 .620	1.124 1.122	1.499 1.497	1-1/8 SQUARE				1/16 x 1/32 KEYWAY FOR WOODRUFF KEY #201	.020 .015	.020 .015	.015 .010	.484

*SPECIAL ORDER ONLY

7. (2) .046-.049 DIAMETER HOLES 180° APART LOCATED ON .437±.002 B.C. USE #00 x 1/8 LONG TYPE "U" DRIVE SCREW TO SECURE RETURN SPRING TO CUSTOMER PART WHERE STANDARD HUB NOT USED. **(ECA-08)

(2) .046-.049 DIAMETER HOLES 180° APART LOCATED ON .500±.002 B.C. USE #00 x 1/8 LONG TYPE "U" DRIVE SCREW TO SECURE RETURN SPRING TO CUSTOMER PART WHERE STANDARD HUB NOT USED. **(ECA-11)**

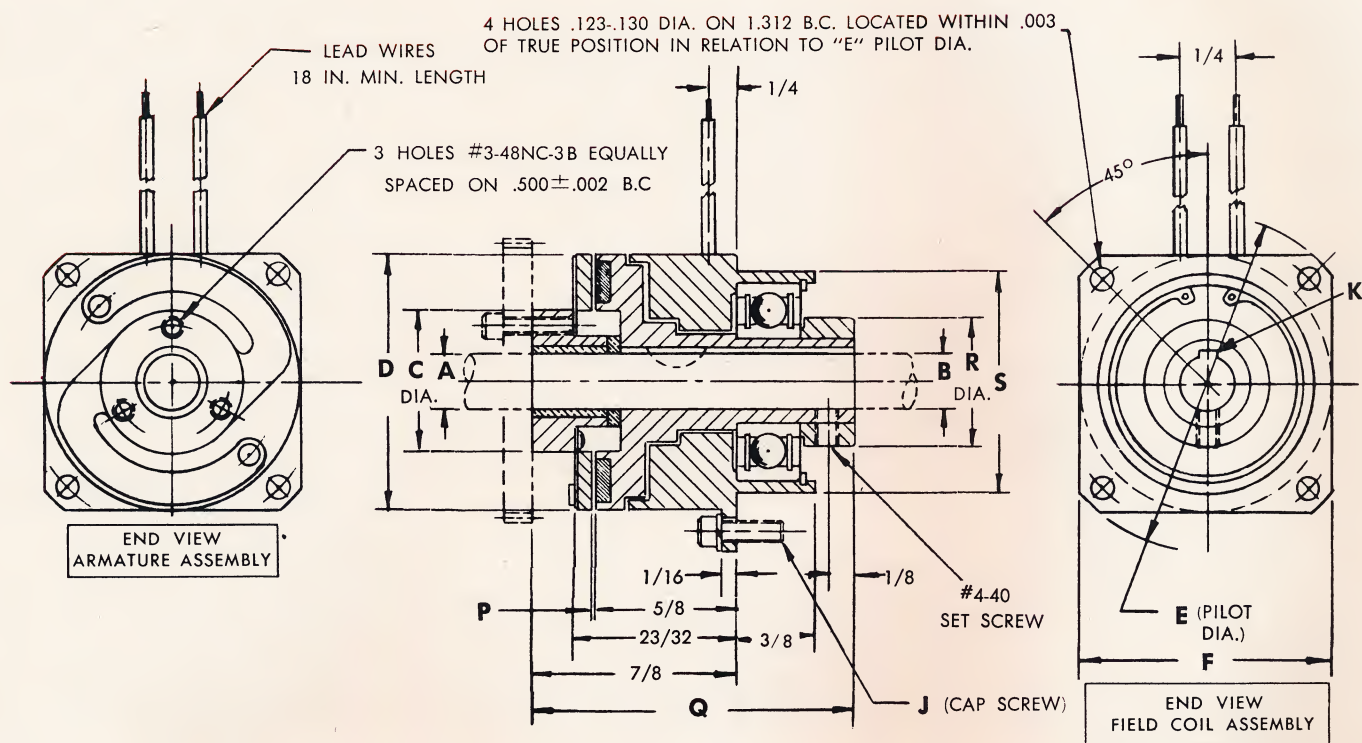
CUSTOMER SHALL MAINTAIN:

- CONCENTRICITY OF FIELD MOUNTING PILOT WITH SHAFT(S) WITHIN .002 T.I.R.
- SQUARENESS OF STATIONARY FIELD MOUNTING FACE WITH SHAFT(S) WITHIN .002 T.I.R. MEASURED AT 1.072 B.C. ON **ECA-08** AND 1.312 B.C. ON **ECA-11**.
- CONCENTRICITY BETWEEN ARMATURE AND ROTOR SHAFTS WITHIN .002 T.I.R. (CLUTCH COUPLING).
- AXIAL DIMENSIONS "N" & "P" TO CONTROL PROPER CLEARANCES.



CLUTCH

BEARING MOUNTED



PART NO.	A	B	C	D	E	F	J	K	P	Q	R	S
*BEC-11C-3	.1880 .1875	.1880 .1875	.622 .620	1.124 1.122	1.499 1.497	1-1/8 SQUARE		NONE	.015 .010	1-13/32	9/16	.999 .997
BEC-11C-4	.2505 .2500	.2505 .2500	.622 .620	1.124 1.122	1.499 1.497	1-1/8 SQUARE	4-40 UNC-3A x 1/4	1/16 x 1/32 KEYWAY FOR WOODRUFF KEY #201	.015 .010	1-13/32	9/16	.999 .997

*SPECIAL ORDER ONLY

CUSTOMER SHALL MAINTAIN:

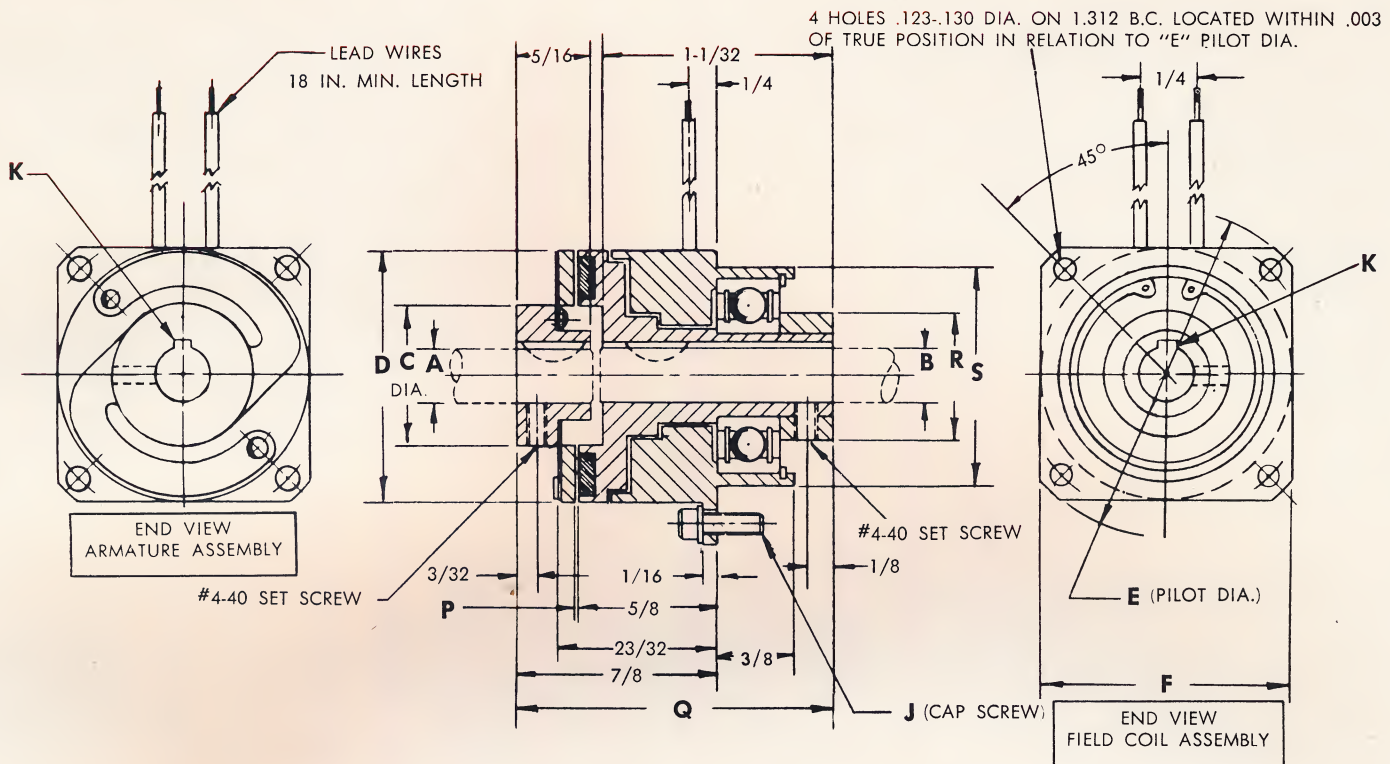
- CONCENTRICITY OF FIELD MOUNTING PILOT WITH SHAFTS WITHIN .002 T.I.R.
- SQUARENESS OF STATIONARY FIELD MOUNTING FACE WITH SHAFTS WITHIN .002 T.I.R. MEASURED AT 1.312 B.C.

- AXIAL DIMENSION "P" TO CONTROL PROPER CLEARANCES.



CLUTCH COUPLING

BEARING MOUNTED



PART NO.	A	B	C	D	E	F	J	K	P	Q	R	S
*BEC-11CC-3	.1880 .1875	.1880 .1875	5/8	1.124 1.122	1.499 1.497	1-1/8	#4-40 UNC-3A x 1/4	NONE	.015 .010	1-13/32	9/16	.999 .997
BEC-11CC-4	.2505 .2500	.2505 .2500	5/8	1.124 1.122	1.499 1.497	1-1/8		1/16 x 1/32 KEYWAY FOR WOODRUFF KEY #201	.015 .010	1-13/32	9/16	.999 .997

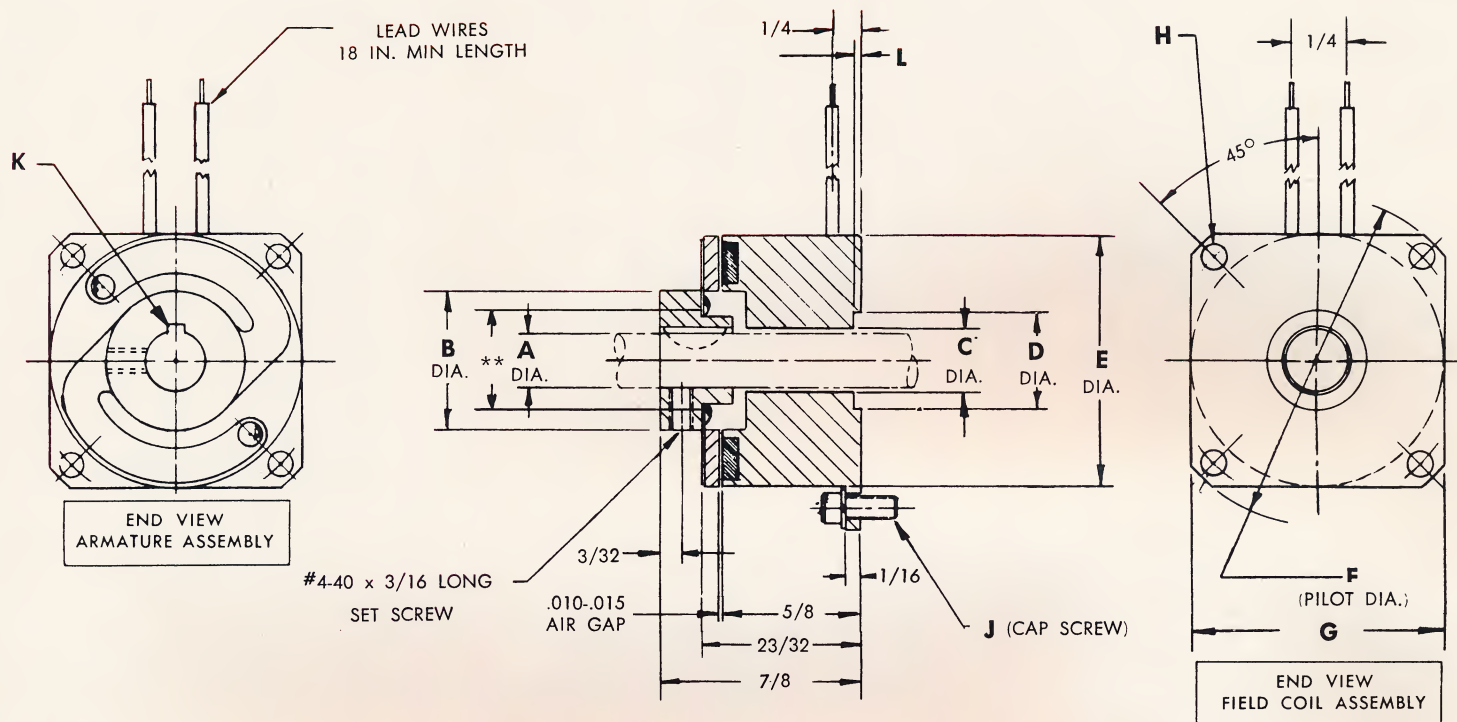
*SPECIAL ORDER ONLY

CUSTOMER SHALL MAINTAIN:

- A. CONCENTRICITY OF FIELD MOUNTING PILOT WITH SHAFTS WITHIN .002 T.I.R.
- B. SQUARENESS OF STATIONARY FIELD MOUNTING FACE WITH SHAFTS WITHIN .002 T.I.R. MEASURED AT 1.312 B.C.
- C. CONCENTRICITY BETWEEN ARMATURE AND ROTOR SHAFTS WITHIN .002 T.I.R.
- D. AXIAL DIMENSION "P" MUST BE HELD TO CONTROL PROPER CLEARANCES.



BRAKE



PART NO.	A	B	C	D	E	F	G	H	J	K	L	T
EC-08B-03	.1880 .1875	9/16	.218	.297 .296	.874 .872	1.2235 1.2215	15/16 SQUARE	SEE NOTE #1	#3-48UNC-3A x 1/4	NONE	.062 .058	.437 .437
*EC-11B-03	.1880 .1875	5/8	.281	.436 .435	1.124 1.122	1.499 1.497	1-1/8 SQUARE	SEE NOTE #2	#4-40UNC-3A x 1/4	NONE	.020 .015	.484 .484
EC-11B-04	.2505 .2500	5/8	.281	.436 .435	1.124 1.122	1.499 1.497	1-1/8 SQUARE			1/16 x 1/32 KEYWAY FOR WOODRUFF KEY #201	.020 .015	.484 .484

*SPECIAL ORDER ONLY

NOTES:

1. 4 HOLES .102-.109 DIA. ON 1.072 B.C. LOCATED WITHIN .002 OF TRUE POSITION IN RELATION TO "F" PILOT DIA.
2. (4) HOLES .123-.130 DIA. ON 1.312 B.C. LOCATED WITHIN .003 OF TRUE POSITION IN RELATION TO "F" PILOT DIA.

CUSTOMER SHALL MAINTAIN:

- A. CONCENTRICITY OF FIELD MOUNTING PILOT WITH SHAFT WITHIN .002 T.I.R.
- B. SQUARENESS OF STATIONARY FIELD MOUNTING FACE WITH SHAFT WITHIN .002 T.I.R.
- C. INITIAL SETTING OF .010-.015 AIR GAP BETWEEN FRICTION SURFACES.

**SEE NOTE #7 ON PAGE 11



CLUTCH/CLUTCH COUPLING

MODEL SBEC-10 SERIES

TECHNICAL DATA FOR:

SBEC-10C	SLEEVE BEARING MOUNTED CLUTCH
SBEC-10CC	SLEEVE BEARING MOUNTED COUPLING
ECA-10C	FLANGE MOUNTED FIELD CLUTCH
ECA-10CC	FLANGE MOUNTED FIELD COUPLING
EC-10B	FLANGE MOUNTED FIELD BRAKE

RATED STATIC TORQUE — 2.0 LB-IN.

RATED CURRENT AT 72°F

28V COIL — .136 AMPS

90V COIL — .042 AMPS

WEIGHT (OZS)

ARMATURE & HUB — .34 OZ.

ROTOR — .46 OZ.

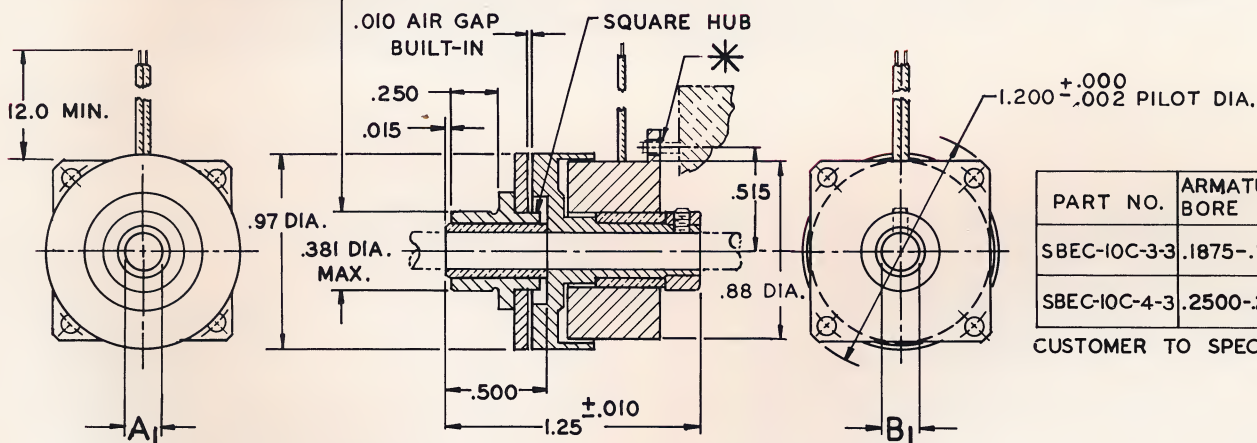
FIELD — .75 OZ.

INERTIA (LB-IN²)

ARMATURE & HUB — .00112

ROTOR — .00198

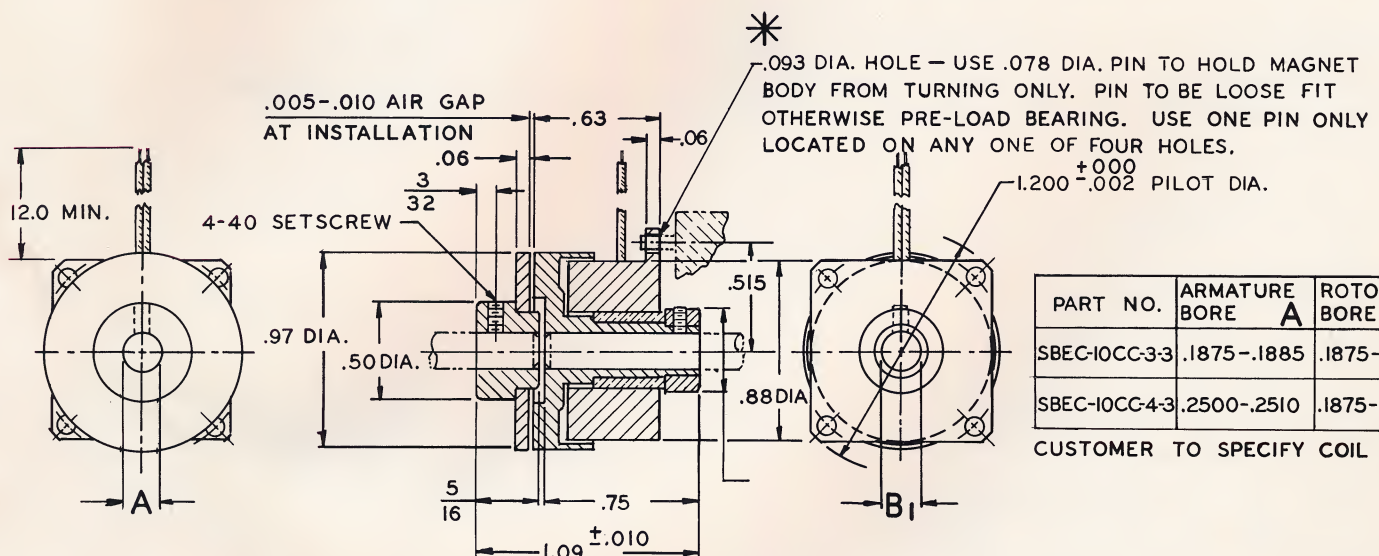
DIA. OVER STRAIGHT KNURL
CUSTOMER PART TO HAVE
.375 $\pm$.001 DIA. FOR PRESS FIT



PART NO.	ARMATURE BORE A ₁	ROTOR BORE B ₁
SBEC-10C-3-3	.1875-.1885	.1875-.1885
SBEC-10C-4-3	.2500-.2510	.1875-.1885

CUSTOMER TO SPECIFY COIL VOLTAGE

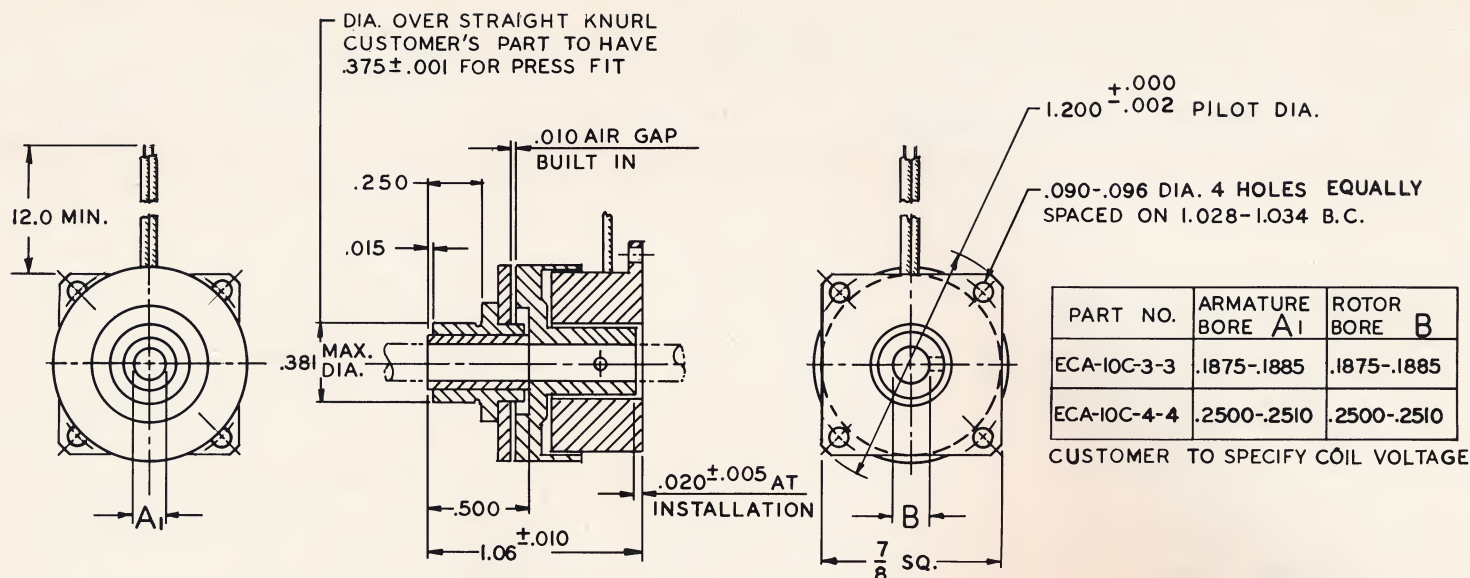
FOR THRU SHAFT APPLICATIONS-CLUTCH BEARING MOUNTED FIELD



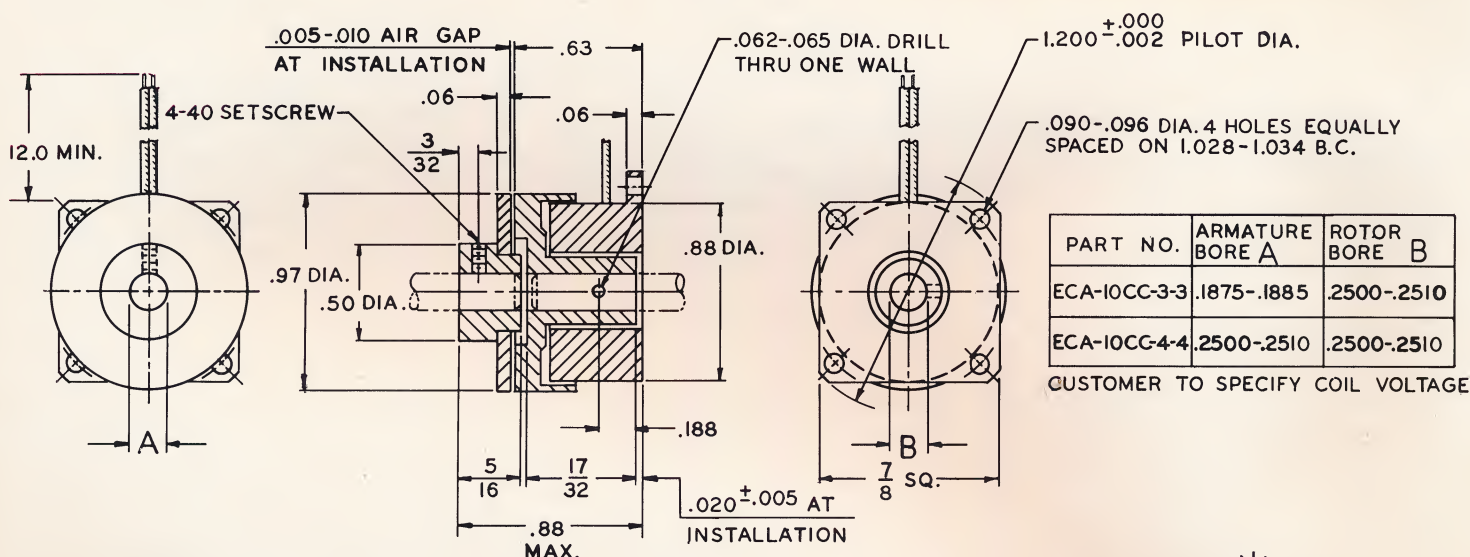
PART NO.	ARMATURE BORE A	ROTOR BORE B ₁
SBEC-10CC-3-3	.1875-.1885	.1875-.1885
SBEC-10CC-4-3	.2500-.2510	.1875-.1885

CUSTOMER TO SPECIFY COIL VOLTAGE

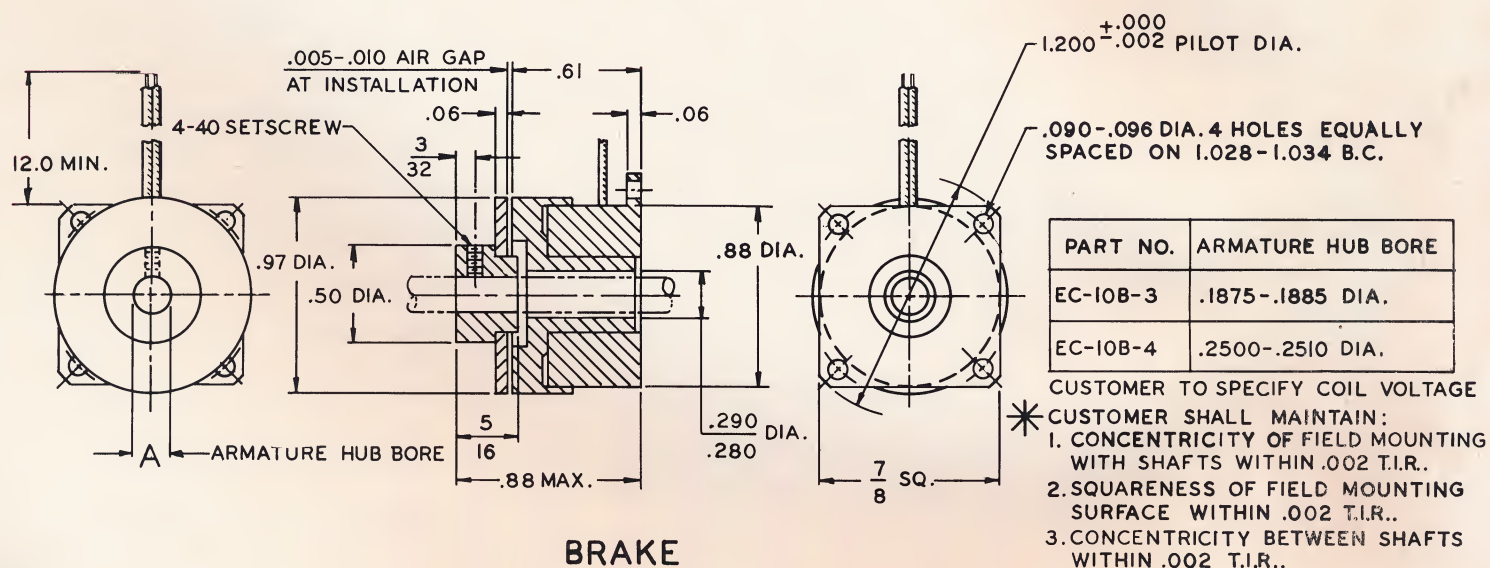
FOR SPLIT SHAFTS APPLICATIONS-CLUTCH COUPLING BEARING MOUNTED FIELD



FOR THRU SHAFT APPLICATIONS CLUTCH*



FOR SPLIT SHAFTS APPLICATIONS CLUTCH COUPLING*

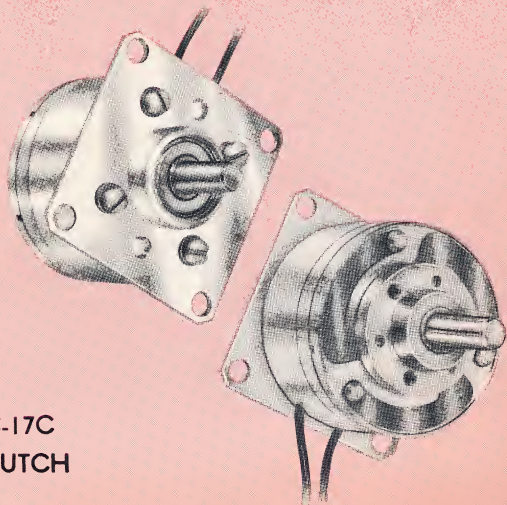




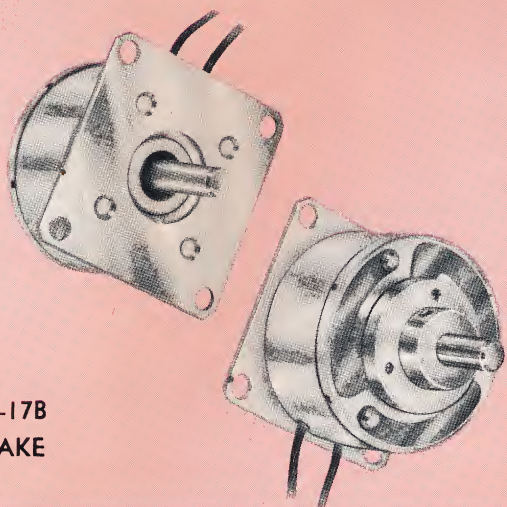
ELECTROIND
C O R P O R A T I O N

95 PROGRESS STREET • UNION, NEW JERSEY
201-686-8290

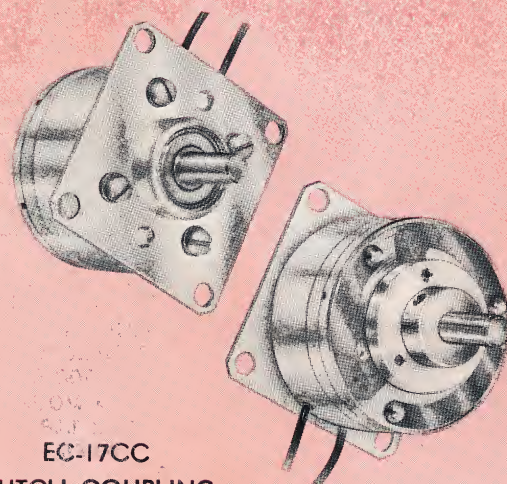
*Manufacturers of
Precision Electro-Magnetic Devices and Solenoids*



EC-17C
CLUTCH



EC-17B
BRAKE



EC-17CC
CLUTCH COUPLING

Magnetic

CLUTCHES

BRAKES

CLUTCH COUPLINGS

FOR FRACTIONAL HORSEPOWER

EC-17

SIZE
DIA.

1-3/4"

RATED
TORQUE
10 LB.-IN.

FEATURES

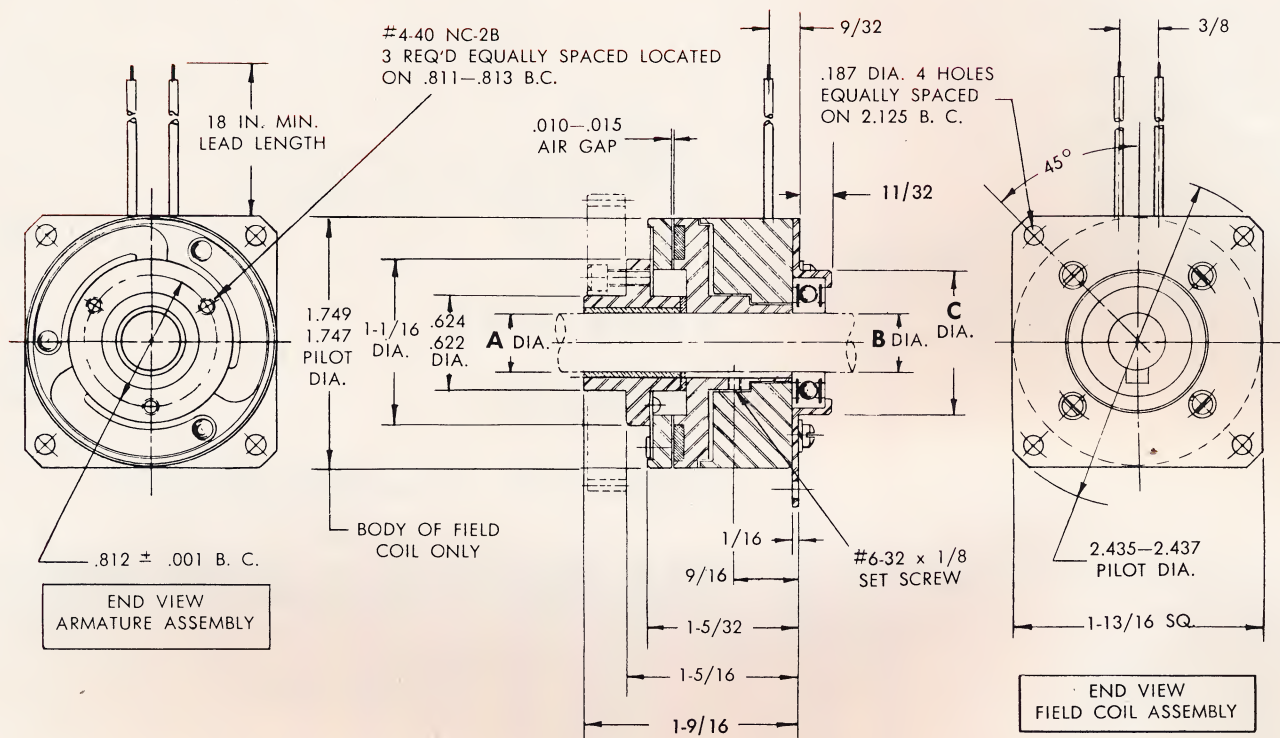
1. Zero backlash armature.
2. Precision Ball Bearings for shaft support.
3. Stationary field coil — no slip rings or brushes.
4. Coil—Epoxy resin encapsulated, vibration proof.
5. Choice of piloting on O.D. of Field Coil housing or on pilot diameter of flange.
6. Wide selection of shaft diameters.
7. Fast operating.
8. Unit can be readily modified to meet your space or mounting requirements.
9. For special applications, consult our Engineering Department for specific recommendations.

TECHNICAL DATA

1. Rated Torque (static) 10 lb.-ins.
2. Operating Voltage — 90 V. D. C. (standard)
28 V. D. C. (optional)
3. Rate Current — .066 amperes @ 90 V. D. C.
.25 amperes @ 28 V. D. C.
4. Weight: Armature assembly .117 lbs.
Rotor assembly .150 lbs.
(clutch & clutch coupling)
Field assembly .290 lbs.
5. Inertia: Armature assembly .032 lb.-in.²
Rotor assembly .040 lb.-in.²
(clutch & clutch coupling)
6. Time of engagement — 7½ milliseconds or less
7. Tentative Rated Speed — 10,000 R. P. M.



CLUTCH

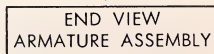


PART NO.	A ARMATURE BORE	B BEARING BORE	ARMATURE AND ROTOR KEYWAY	C DIA.	RATED VOLTAGE	RATED STATIC TORQUE
EC-17C-4	.250 $\begin{smallmatrix} +.001 \\ -.000 \end{smallmatrix}$	.250 $\begin{smallmatrix} +.000 \\ -.0003 \end{smallmatrix}$	1/16 x 1/32	7/8	90 V., 28 V.D.C. STANDARD	10.0 LB-INS.
			3/32 x 3/64	1.00	OTHER VOLTAGES AVAILABLE (6.0 WATTS)	
EC-17C-6	.375 $\begin{smallmatrix} +.001 \\ -.000 \end{smallmatrix}$	.375 $\begin{smallmatrix} +.000 \\ -.0003 \end{smallmatrix}$				

1. ABOVE BORES CARRIED IN STOCK — OTHER BORES AVAILABLE ON REQUEST.
2. UNIT CAN BE MODIFIED TO MEET YOUR MOUNTING REQUIREMENTS.

CUSTOMER SHALL MAINTAIN:

1. SURFACE OF PILOT MOUNTING TO BE SQUARE WITH SHAFT WITHIN .003 TIR MEASURED AT 2.125 B. C.
2. INITIAL SETTING OF .010 — .015 IN. AIR GAP BETWEEN FRICTION SURFACES.



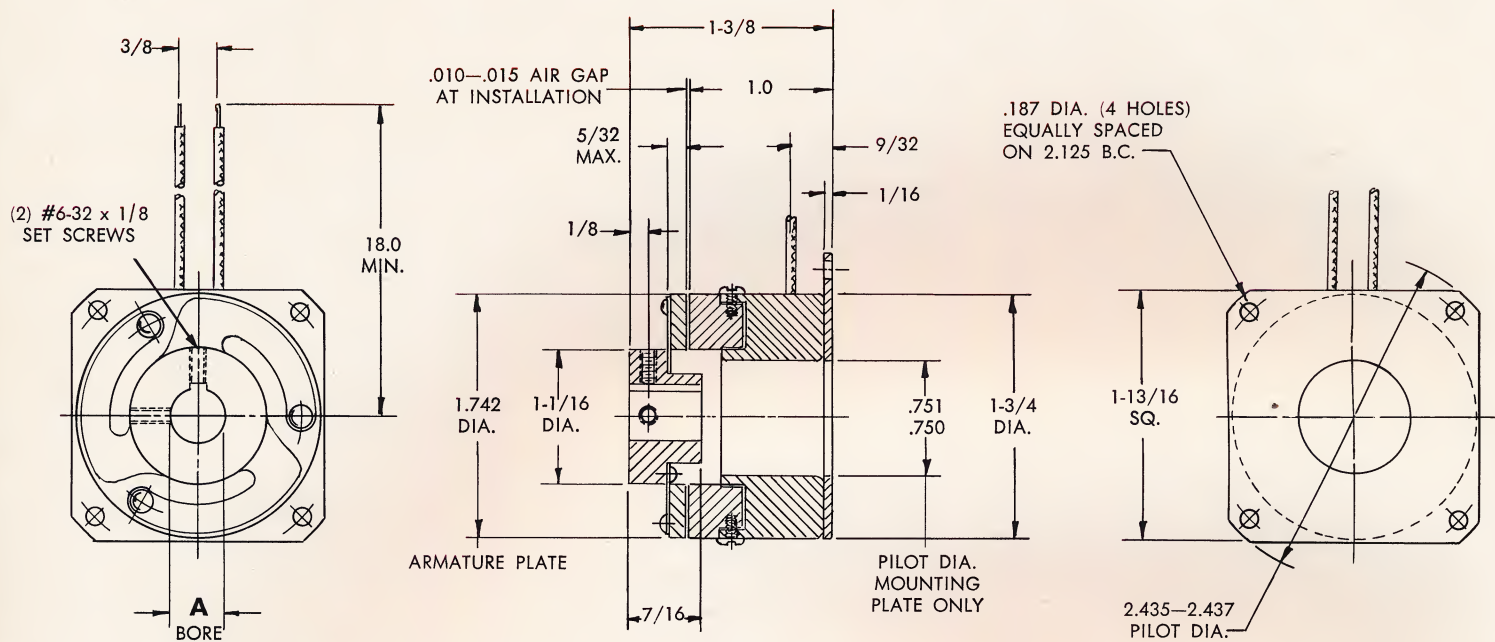
END VIEW
FIELD COIL ASSEMBLY

- CUSTOMER SHALL MAINTAIN:**

- 19



BRAKE



PART NO.	A ARMATURE BORE	ARMATURE KEYWAY	RATED VOLTAGE
EC-17B-4	.250 $\begin{smallmatrix} +.001 \\ -.000 \end{smallmatrix}$	1/16 x 1/32	90, 28 V.D.C. STANDARD
EC-17B-5	.312 $\begin{smallmatrix} +.001 \\ -.000 \end{smallmatrix}$	1/16 x 1/32	OTHER VOLTAGES AVAILABLE (6.0 WATTS)
EC-17B-6	.375 $\begin{smallmatrix} +.001 \\ -.000 \end{smallmatrix}$	3/32 x 3/64	

CUSTOMER SHALL MAINTAIN:

1. SURFACE OF PILOT MOUNTING TO BE SQUARE WITH SHAFT WITHIN .003 TIR MEASURED AT 2.125 B. C.
2. PILOT DIAMETERS FOR FIELD MOUNTING SHALL BE CONCENTRIC WITH SHAFT WITHIN .003 TIR.
3. INITIAL SETTING OF .010 — .015 IN. AIR GAP BETWEEN FRICTION SURFACES.

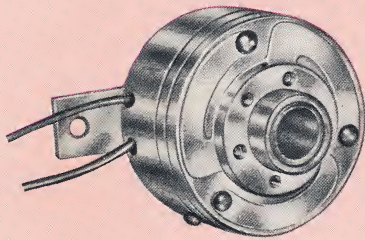
1. ABOVE BORES CARRIED IN STOCK—OTHER BORES AVAILABLE ON REQUEST.
2. UNIT CAN BE MODIFIED TO MEET YOUR MOUNTING REQUIREMENTS.



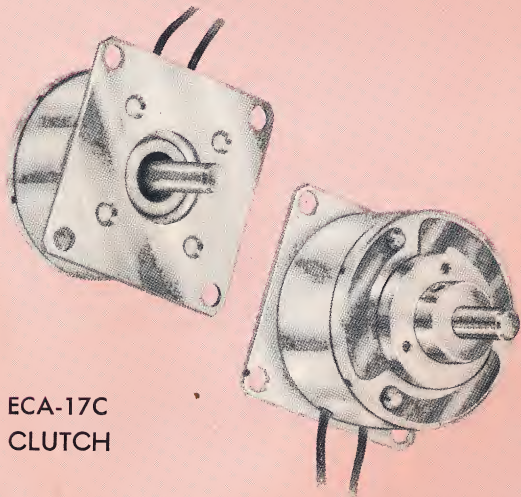
ELECTROID
C O R P O R A T I O N

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201-686-8290

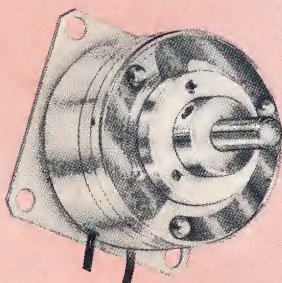
*Manufacturers of
Precision Electro-Magnetic Devices and Solenoids*



SBEC-17C
CLUTCH



ECA-17C
CLUTCH



ECA-17CC
CLUTCH COUPLING

Magnetic

CLUTCHES

BRAKES

CLUTCH COUPLINGS

FOR FRACTIONAL HORSEPOWER

SBEC-17

SIZE
DIA.

1-3/4"

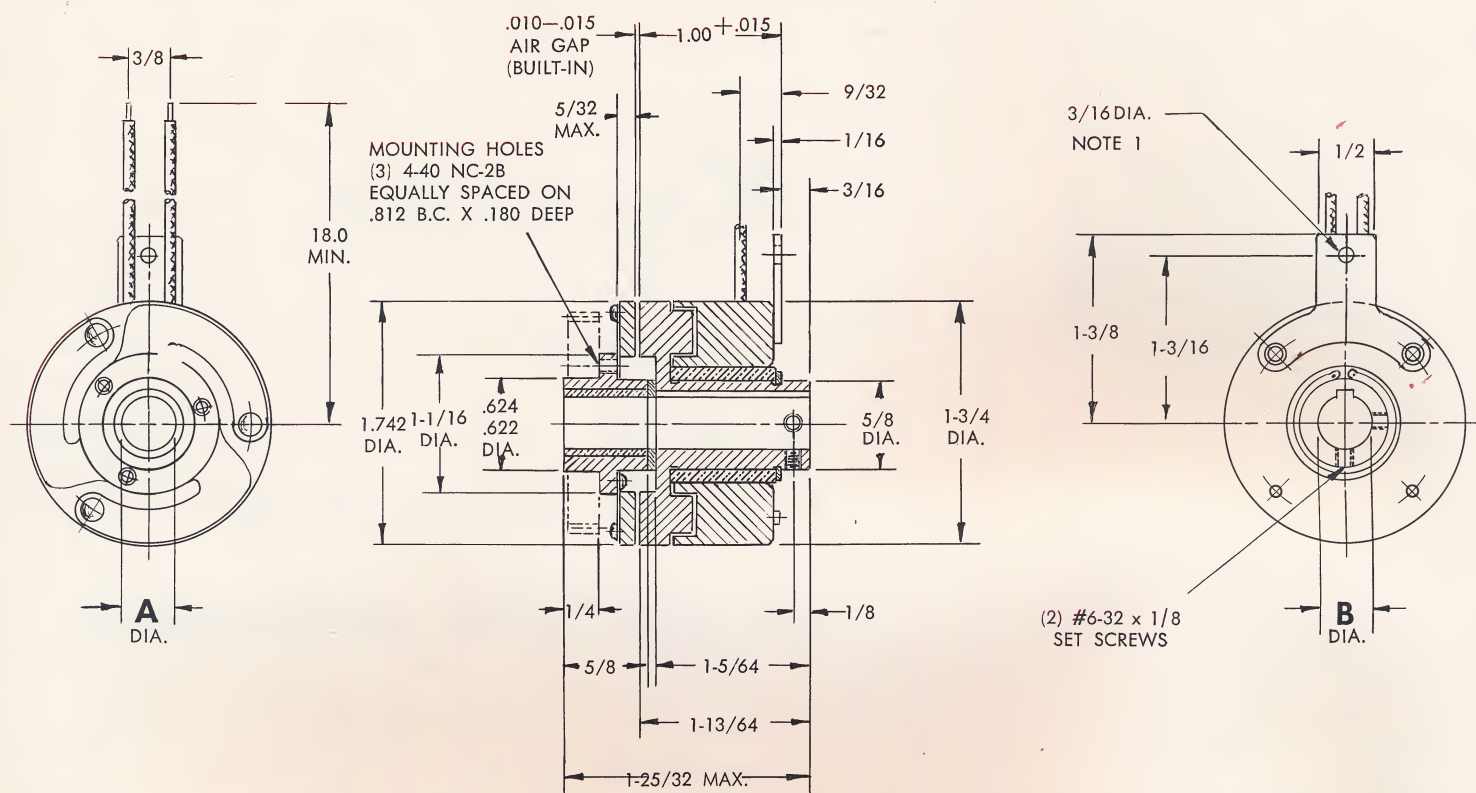
**RATED
TORQUE**
15 LB.-IN.

FEATURES

1. Zero backlash armature.
2. Precision Ball Bearings or sleeve bearings.
3. Stationary field coil—no slip rings or brushes.
4. Coil—Epoxy resin encapsulated, vibration proof.
5. Choice of piloting on O.D. of Field Coil housing or on pilot diameter of flange.
6. Wide selection of shaft diameters.
7. Fast operating.
8. Unit can be readily modified to meet your space or mounting requirements.
9. For special applications, consult our Engineering Department for specific recommendations.

TECHNICAL DATA

1. Rated Torque (static) 15 lb.-ins.
2. Operating Voltage—90 V.D.C. (standard)
24 V.D.C. (optional)
3. Rate Current—.073 amperes @ 90 V.D.C.
.230 amperes @ 28 V.D.C.
4. Weight: Armature assembly .115 lbs.
Rotor assembly .163 lbs.
(clutch and clutch coupling)
Field assembly .248 lbs.
5. Inertia: Armature assembly .068 lb.-in.²
Rotor assembly .0526 lb.-in.²
(clutch and clutch coupling)
6. Time of engagement—7-1/2 milliseconds or less.
7. Tentative Rated Speed—10,000 R.P.M.



FOR THRU SHAFT APPLICATIONS

PART NO.	A ARMATURE BORE	B BEARING BORE	ROTOR KEYWAY	RATED VOLTAGE	RATED STATIC TORQUE
SBEC-17C-4	.250 $\begin{smallmatrix} +.001 \\ -.000 \end{smallmatrix}$	.250 $\begin{smallmatrix} +.001 \\ -.000 \end{smallmatrix}$	1/16 x 1/32	90 V.D.C., 28 V.D.C. STANDARD	15.0 LB.-INS.
SBEC-17C-5	.312 $\begin{smallmatrix} +.001 \\ -.000 \end{smallmatrix}$	.312 $\begin{smallmatrix} +.001 \\ -.000 \end{smallmatrix}$	1/16 x 1/32	OTHER VOLTAGES AVAILABLE (6.6 WATTS)	
SBEC-17C-6	.375 $\begin{smallmatrix} +.001 \\ -.000 \end{smallmatrix}$	.375 $\begin{smallmatrix} +.001 \\ -.000 \end{smallmatrix}$	3/32 x 3/64		

1. ABOVE BORES CARRIED IN STOCK—OTHER BORES AVAILABLE ON REQUEST.
2. UNIT CAN BE MODIFIED TO MEET YOUR MOUNTING REQUIREMENTS.
3. UNIT ALSO AVAILABLE WITH BALL BEARING MOUNTED FIELD.

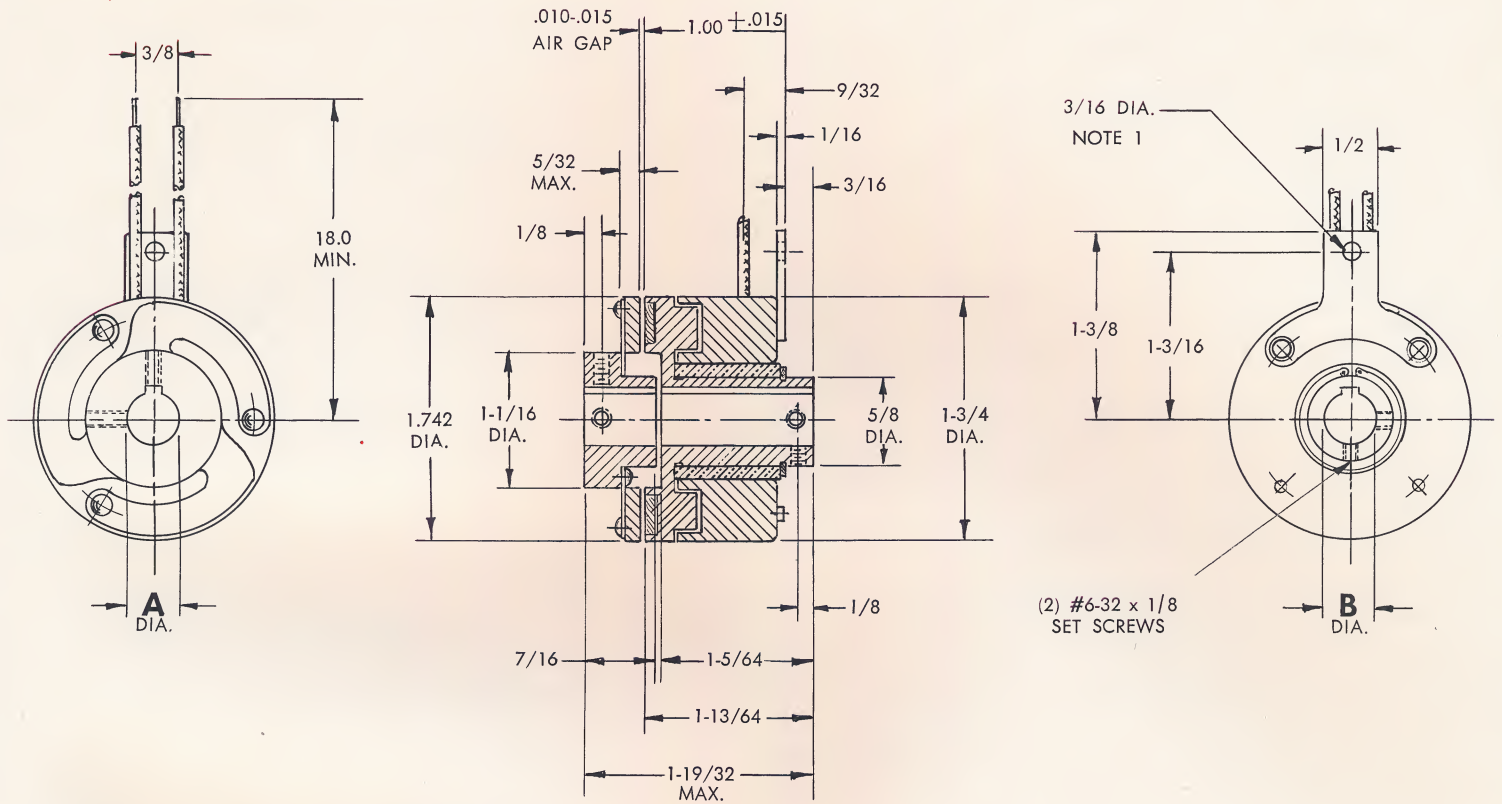
CUSTOMER SHALL MAINTAIN:

1. LOOSE FIT IN 3/16" DIA. HOLE. THIS IS IMPORTANT. THIS IS FOR STRAIN RELIEF ONLY AND SOLID MOUNTING WILL PRE-LOAD BEARINGS.
2. INITIAL SETTING OF .010 — .015 IN. AIR GAP BETWEEN FRICTION SURFACES.



CLUTCH COUPLING

SLEEVE BEARING MOUNTED



FOR SPLIT SHAFT APPLICATIONS

PART NO.	A ARMATURE BORE	B BEARING BORE	ARMATURE AND ROTOR KEYWAY	RATED VOLTAGE	RATED STATIC TORQUE
SBEC-17CC-4	.250 $\begin{smallmatrix} +.001 \\ -.000 \end{smallmatrix}$	.250 $\begin{smallmatrix} +.001 \\ -.000 \end{smallmatrix}$	1/16 x 1/32	90 V., 28 V.D.C. STANDARD	15.0 LB.-INS.
SBEC-17CC-5	.312 $\begin{smallmatrix} +.001 \\ -.000 \end{smallmatrix}$	.312 $\begin{smallmatrix} +.001 \\ -.000 \end{smallmatrix}$	1/16 x 1/32	OTHER VOLTAGES AVAILABLE (6.0 WATTS)	
SBEC-17CC-6	.375 $\begin{smallmatrix} +.001 \\ -.000 \end{smallmatrix}$	.375 $\begin{smallmatrix} +.001 \\ -.000 \end{smallmatrix}$	3/32 x 3/64		

1. ABOVE BORE CARRIED IN STOCK—OTHER BORES AVAILABLE ON REQUEST.
2. UNIT CAN BE MODIFIED TO MEET YOUR MOUNTING REQUIREMENTS.
3. UNIT ALSO AVAILABLE WITH BALL BEARING MOUNTED FIELD.

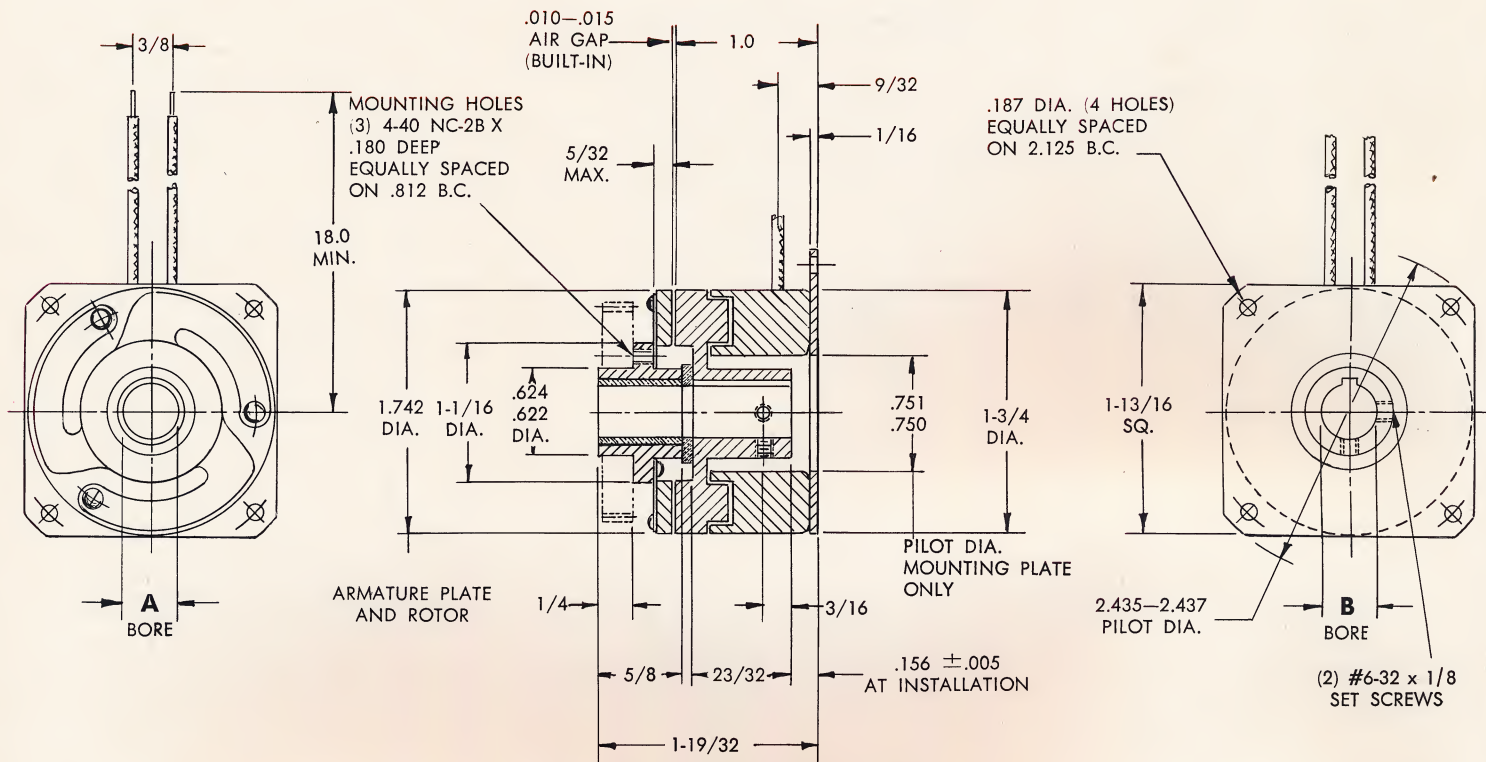
CUSTOMER SHALL MAINTAIN:

1. LOOSE FIT IN 3/16" DIA. HOLE. THIS IS IMPORTANT. THIS IS FOR STRAIN RELIEF ONLY AND SOLID MOUNTING WILL PRE-LOAD BEARINGS.
2. CONCENTRICITY BETWEEN SHAFTS WITHIN .003 TIR.
3. INITIAL SETTING OF .010-.015 IN. AIR GAP BETWEEN FRICTION SURFACES.



CLUTCH

FLANGE MOUNTED



FOR THRU SHAFT APPLICATIONS

PART NO.	A ARMATURE BORE	B BEARING BORE	ARMATURE AND ROTOR KEYWAY	C DIA.	RATED VOLTAGE	RATED STATIC TORQUE
ECA-17C-4	.250 $\begin{smallmatrix} +.001 \\ -.000 \end{smallmatrix}$	.250 $\begin{smallmatrix} +.000 \\ -.0003 \end{smallmatrix}$	1/16 x 1/32	7/8	90 V., 28 V.D.C. STANDARD	15.0 LB.-INS.
ECA-17C-5	.312 $\begin{smallmatrix} +.001 \\ -.000 \end{smallmatrix}$	.312 $\begin{smallmatrix} +.001 \\ -.000 \end{smallmatrix}$	3/32 x 3/64	1.00	OTHER VOLTAGES AVAILABLE (6.0 WATTS)	
ECA-17C-6	.375 $\begin{smallmatrix} +.001 \\ -.000 \end{smallmatrix}$	.375 $\begin{smallmatrix} +.000 \\ -.0003 \end{smallmatrix}$				

1. ABOVE BORE CARRIED IN STOCK—OTHER BORES AVAILABLE ON REQUEST.
2. UNIT CAN BE MODIFIED TO MEET YOUR MOUNTING REQUIREMENTS.

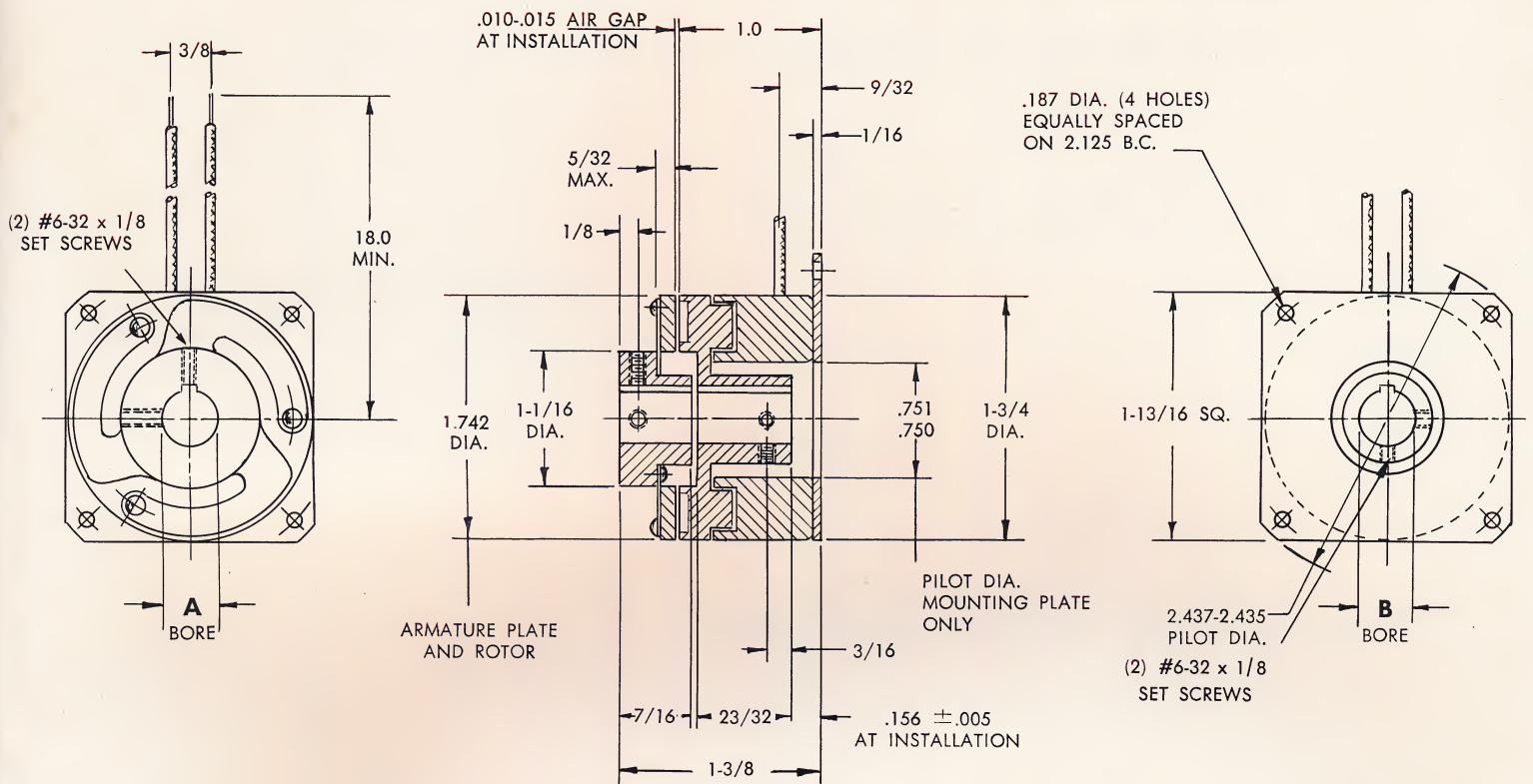
CUSTOMER SHALL MAINTAIN:

1. FIELD ASSEMBLY PILOT DIAMETER TO BE CONCENTRIC WITH SHAFTS WITHIN .005 TIR.
2. SURFACE OF PILOT MOUNTING TO BE SQUARE WITH SHAFT WITHIN .003 TIR MEASURED AT 2.125 B. C.
3. CONCENTRICITY BETWEEN SHAFTS WITHIN .003 TIR.
4. INITIAL SETTING OF .010 — .015 IN. AIR GAP BETWEEN FRICTION SURFACES.



CLUTCH COUPLING

FLANGE MOUNTED



FOR SPLIT SHAFT APPLICATIONS

PART NO.	A ARMATURE BORE	ARMATURE KEYWAY	RATED VOLTAGE
ECA-17CC-4	.250 $\begin{smallmatrix} +.001 \\ -.000 \end{smallmatrix}$	1/16 x 1/32	90, 28 V.D.C. STANDARD
ECA-17CC-5	.312 $\begin{smallmatrix} +.001 \\ -.000 \end{smallmatrix}$	3/32 x 3/64	OTHER VOLTAGES AVAILABLE (6.0 WATTS)
ECA-17CC-6	.375 $\begin{smallmatrix} +.001 \\ -.000 \end{smallmatrix}$		

1. ABOVE BORES CARRIED IN STOCK—OTHER BORES AVAILABLE ON REQUEST.
2. UNIT CAN BE MODIFIED TO MEET YOUR MOUNTING REQUIREMENTS.

CUSTOMER SHALL MAINTAIN:

1. SURFACE OF PILOT MOUNTING TO BE SQUARE WITH SHAFT WITHIN .003 TIR MEASURED AT 2.125 B. C.
2. PILOT DIAMETERS FOR FIELD MOUNTING SHALL BE CONCENTRIC WITH SHAFT WITHIN .003 TIR.
3. INITIAL SETTING OF .010 — .015 IN. AIR GAP BETWEEN FRICTION SURFACES.

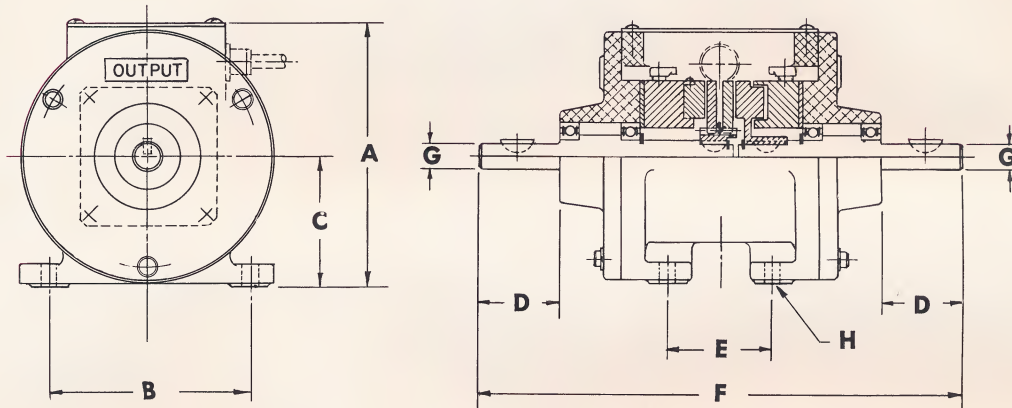


ELECTROID

C O R P O R A T I O N

Electric Clutch Brake Combinations

Fast Acting • Easy Installation • Versatile



NOTE: MODEL CB-260 SHOWN. DRAWINGS OF OTHER CB UNITS AVAILABLE UPON REQUEST.

MODEL	TORQUE LB. IN.	VOLTS D.C.*	CURRENT MILLIAMP	WEIGHT LBS.	A	B	C	D	E	F	G	H
CB-170	15	90	73	3-1/2	3-11/32	2-1/4	1.657	3/4	1-1/2	5-15/16	.3745 +.000 -.001	7/32
CB-260	75	90	75	7-1/2	4-5/8	3-1/4	2.312	1-5/16	2-1/4	8-7/8	.4995 +.000 -.001	9/32
CB-240	240	90	150	16	7	5-1/4	3.469	1-7/8	6-3/8	11-3/4	.7495 +.000 -.001	9/32
CB-560	600	90	350	32	8-3/16	5-7/8	3.998	2-1/4	7	15-1/2	.8750 +.000 -.001	13/32

IMPORTANT: REQUEST INSTALLATION DRAWING FOR REVISED DIMENSIONS ON ABOVE UNITS.

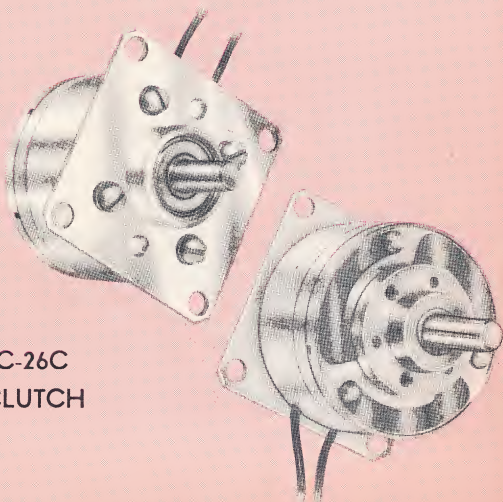
Electroid features total enclosure. All CB models are moisture and dustproof. Completely assembled and shafts accurately aligned. Each shaft supported by two factory sealed ball bearings. Stationary field coils totally encapsulated—no slip rings.



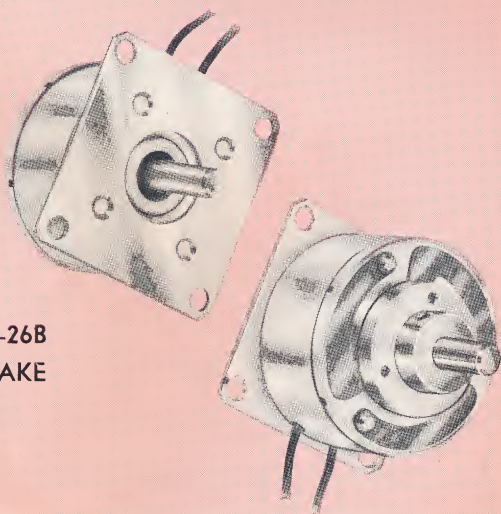
ELECTROID
C O R P O R A T I O N

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201-686-8290

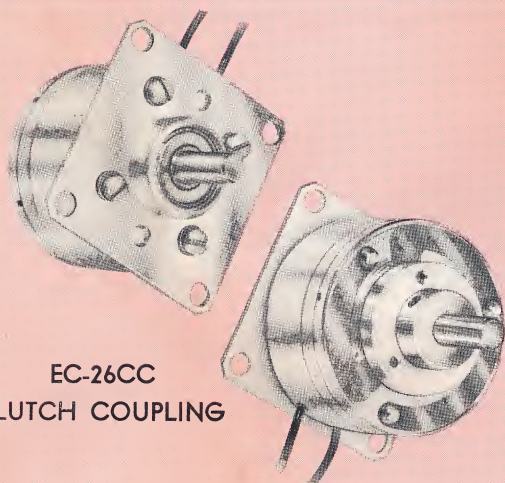
*Manufacturers of
Precision Electro-Magnetic Devices and Solenoids*



EC-26C
CLUTCH



EC-26B
BRAKE



EC-26CC
CLUTCH COUPLING

Magnetic

CLUTCHES BRAKES CLUTCH COUPLINGS

FOR FRACTIONAL HORSEPOWER

EC-26

SIZE
DIA.

2-5/8"

RATED

TORQUE
75 LB.-IN.

FEATURES

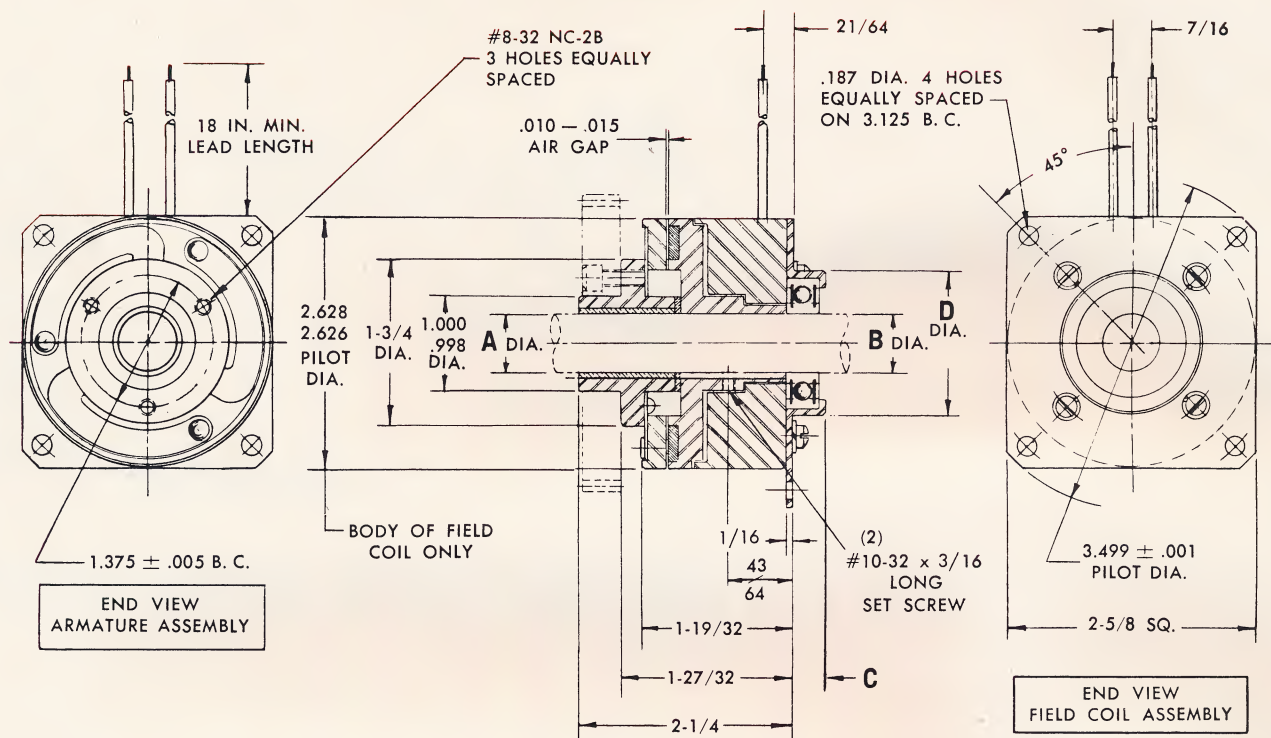
1. Zero backlash armature.
2. Precision Ball Bearings for shaft support.
3. Stationary field coil — no slip rings or brushes.
4. Coil—Epoxy resin encapsulated, vibration proof.
5. Choice of piloting on O.D. of Field Coil housing or on pilot diameter of flange.
6. Wide selection of shaft diameters.
7. Fast operating.
8. Unit can be readily modified to meet your space or mounting requirements.
9. For special applications, consult our Engineering Department for specific recommendations.

TECHNICAL DATA

1. Rated Torque (static) 75 lb.-ins.
2. Operating Voltage — 90 V. D. C. (standard)
28 V. D. C. (optional)
3. Rate Current — .08 amperes @ 90 V. D. C.
.25 amperes @ 28 V. D. C.
4. Weight: Armature assembly .40 lbs.
Rotor assembly .24 lbs.
(clutch & clutch coupling)
Field assembly 1.00 lbs.
5. Inertia: Armature assembly .33 lb.-in.²
Rotor assembly .40 lb.-in.²
(clutch & clutch coupling)
6. Time of Engagement — 7½ milliseconds or less
7. Tentative Rated Speed — 7,500 R. P. M.



CLUTCH



PART NO.	A* ARMATURE BORE	B BEARING BORE	ROTOR KEYWAY	C	D	RATED VOLTAGE
EC-26C-6	.375 $\begin{smallmatrix} +.001 \\ -.000 \end{smallmatrix}$	.375 $\begin{smallmatrix} +.000 \\ -.0003 \end{smallmatrix}$	3/32 x 3/64	9/32	1.00	STANDARD 90 V. D. C. 7.5 WATTS
EC-26C-8	.500 $\begin{smallmatrix} +.001 \\ -.000 \end{smallmatrix}$	.500 $\begin{smallmatrix} +.000 \\ -.0003 \end{smallmatrix}$	1/8 x 1/16	5/16	1.25	
EC-26C-10	.625 $\begin{smallmatrix} +.001 \\ -.000 \end{smallmatrix}$	.625 $\begin{smallmatrix} +.000 \\ -.0003 \end{smallmatrix}$	3/16 x 1/16 FOR 3/16 x 1/8 FLAT KEY	11/32	1.50	OPTIONAL 28 V.D.C. 7.0 WATTS

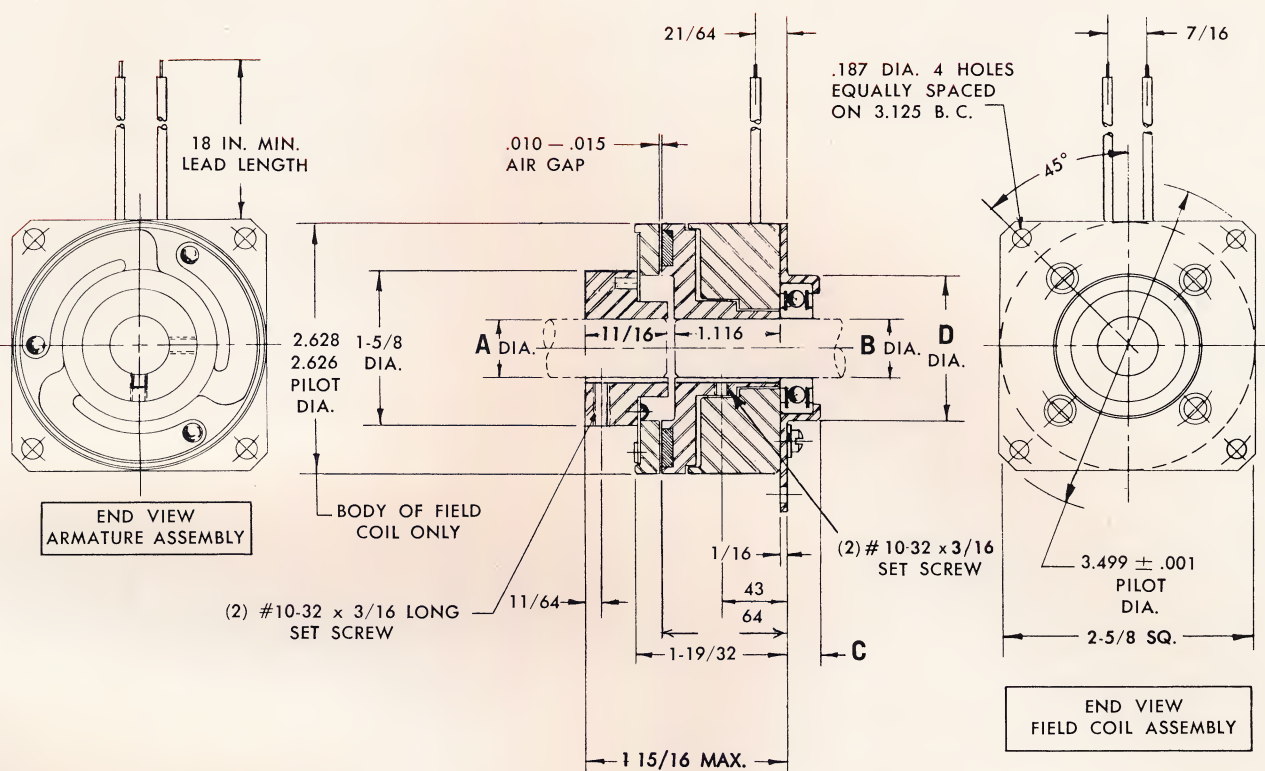
1. *ABOVE BORES CARRIED IN STOCK — OTHER BORES AVAILABLE ON REQUEST.
2. ARMATURE HUB CAN BE MODIFIED TO MEET YOUR MOUNTING REQUIREMENTS.

CUSTOMER SHALL MAINTAIN:

1. SURFACE OF PILOT MOUNTING TO BE SQUARE WITH SHAFT WITHIN .003 TIR MEASURED AT 3.125 B. C.
2. INITIAL SETTING OF .010 — .015 IN. AIR GAP BETWEEN FRICTION SURFACES.



CLUTCH COUPLING



PART NO.	A* ARMATURE BORE	B BEARING BORE	ARMATURE AND ROTOR KEYWAY	C	D	RATED VOLTAGE
EC-26CC-6	.375 $\begin{smallmatrix} +.001 \\ -.000 \end{smallmatrix}$	.375 $\begin{smallmatrix} +.000 \\ -.0003 \end{smallmatrix}$	3/32 x 3/64	9/32	1.00	STANDARD 90 V. D. C. 7.5 WATTS
EC-26CC-8	.500 $\begin{smallmatrix} +.001 \\ -.000 \end{smallmatrix}$	.500 $\begin{smallmatrix} +.000 \\ -.0003 \end{smallmatrix}$	1/8 x 1/16	5/16	1.25	OPTIONAL 28 V.D.C. 7.0 WATTS
EC-26CC-10	.625 $\begin{smallmatrix} +.001 \\ -.000 \end{smallmatrix}$	.625 $\begin{smallmatrix} +.000 \\ -.0003 \end{smallmatrix}$	3/16 x 1/16 FOR 3/16 x 1/8 FLAT KEY	11/32	1.50	

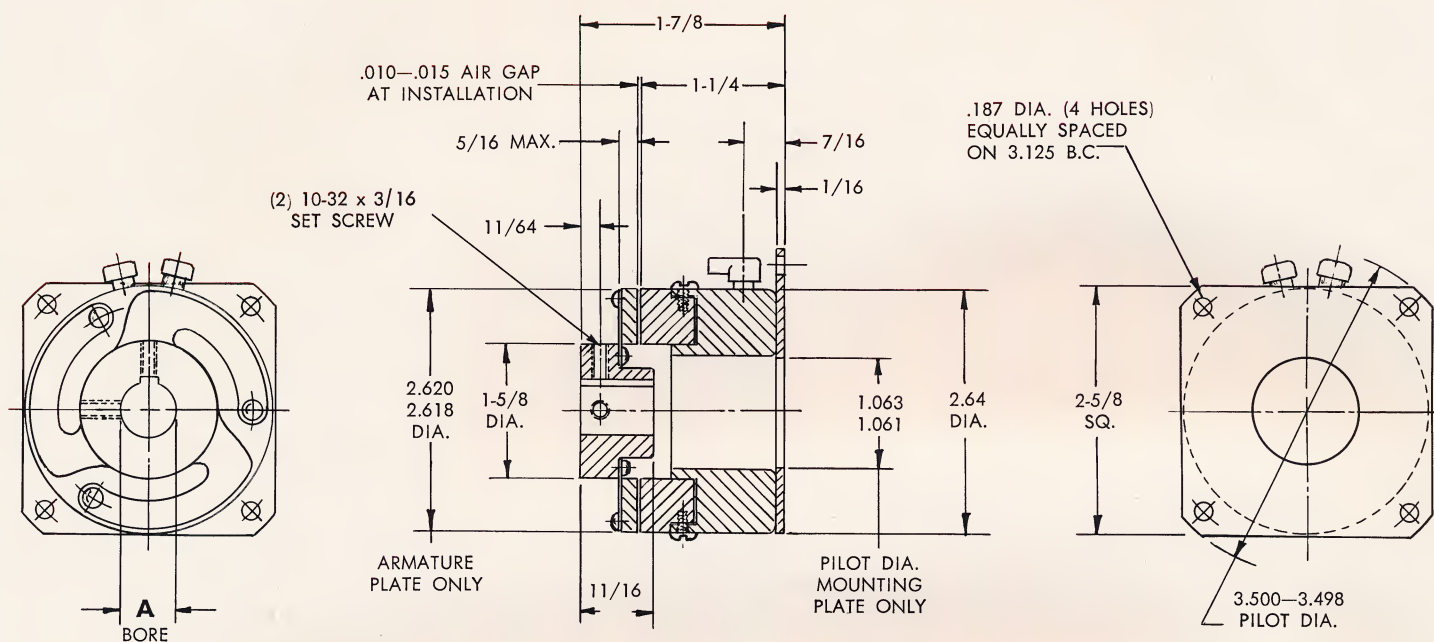
1. *ABOVE BORE CARRIED IN STOCK — OTHER BORES AVAILABLE ON REQUEST.
2. ARMATURE HUB CAN BE MODIFIED TO MEET YOUR MOUNTING REQUIREMENT.

CUSTOMER SHALL MAINTAIN:

1. FIELD ASSEMBLY PILOT DIAMETER TO BE CON-
CENTRIC WITH SHAFT WITHIN .005 TIR.
2. SURFACE OF PILOT MOUNTING TO BE SQUARE
WITH SHAFT WITHIN .003 TIR MEASURED AT
3.125 B. C.
3. INITIAL SETTING OF .010 — .015 IN. AIR GAP
BETWEEN FRICTION SURFACES.



BRAKE



PART NO.	A BORE DIA.	ARMATURE KEYWAY	RATED VOLTAGE
*EC-26B-6	.375 $\begin{smallmatrix} +.001 \\ -.000 \end{smallmatrix}$	3/32 x 3/64	STANDARD 90 V. D. C. 8.3 WATTS
EC-26B-7	.437 $\begin{smallmatrix} +.001 \\ -.000 \end{smallmatrix}$	1/8 x 1/16	
*EC-26B-8	.500 $\begin{smallmatrix} +.001 \\ -.000 \end{smallmatrix}$		
EC-26B-9	.562 $\begin{smallmatrix} +.001 \\ -.000 \end{smallmatrix}$		
*EC-26B-10	.625 $\begin{smallmatrix} +.001 \\ -.000 \end{smallmatrix}$	3/16 x 3/32	OPTIONAL 28 V. D. C. 8.3 WATTS
EC-26B-11	.687 $\begin{smallmatrix} +.001 \\ -.000 \end{smallmatrix}$		
*EC-26B-12	.750 $\begin{smallmatrix} +.001 \\ -.000 \end{smallmatrix}$	3/16 x 1/16 FOR 3/16 x 1/8 FLAT KEY	

- *BORES CARRIED IN STOCK—
OTHER BORES AVAILABLE ON
REQUEST.
- UNIT CAN BE MODIFIED TO MEET
YOUR MOUNTING REQUIREMENTS.

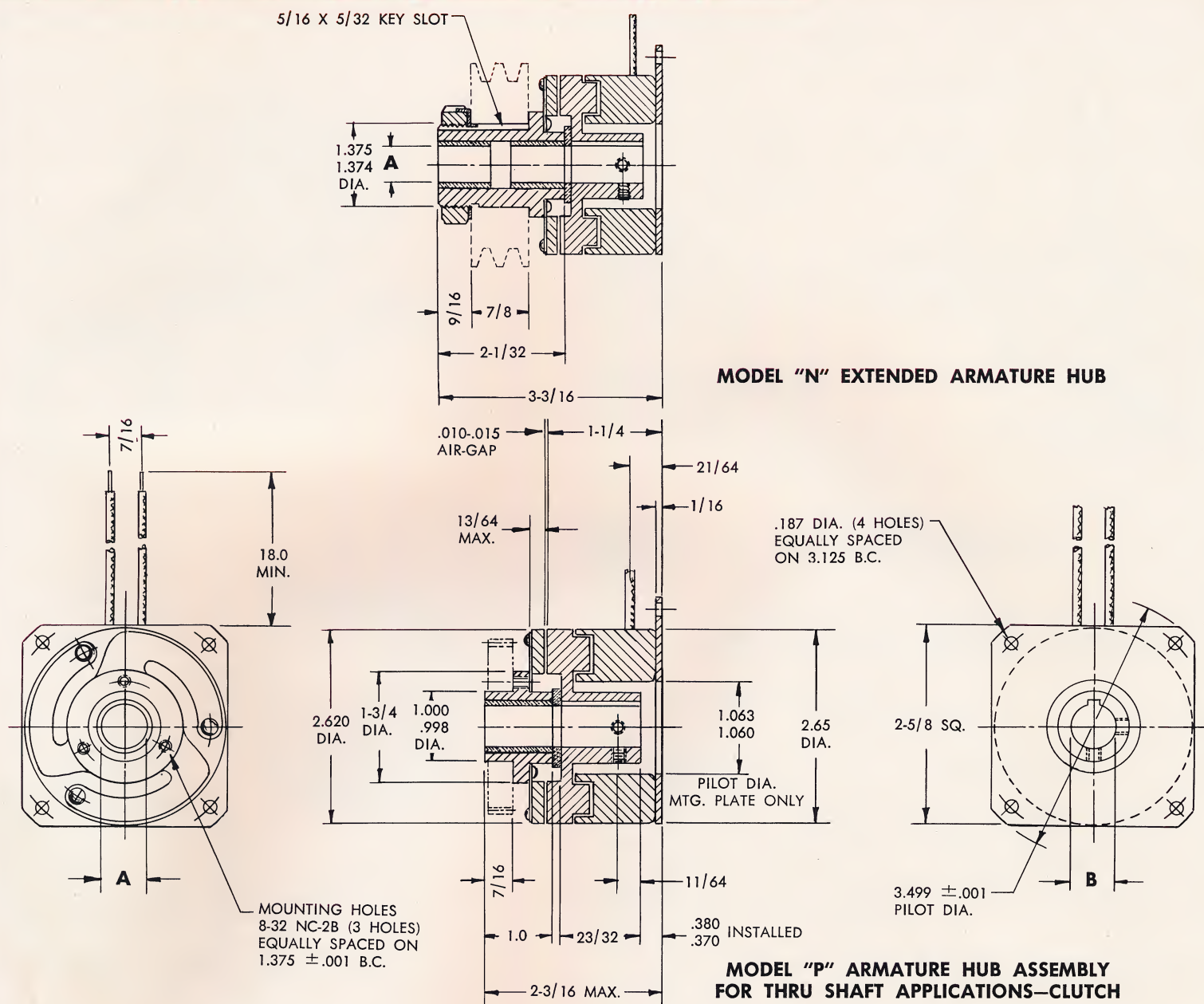
CUSTOMER SHALL MAINTAIN:

- SURFACE OF PILOT MOUNTING TO BE
SQUARE WITH SHAFT WITHIN .003
TIR MEASURED AT 3.125 B. C.
- INITIAL SETTING OF .010-.015 IN. AIR
GAP BETWEEN FRICTION SURFACES.



CLUTCH

MODEL ECA-26C SERIES



MODEL ECA-26C "N" AND "P"

ARMATURE HUB			ROTOR HUB			COIL VOLTAGE
BORE		A	BORE	KEY-WAY	B	
.376 .375	FREE RUNNING ON SLEEVE BEARING	— 6	.376 .375	3/32 X 3/64	— 6	28 V. D. C. OR 90 V. D. C.
.501 .500		— 8	.501 .500	1/8 X 1/16	— 8	
.626 .625		—10	.626 .625	3/16 X 1/16 FOR 3/16 X 1/8 FLAT KEY	—10	

OTHER BORES AVAILABLE ON REQUEST

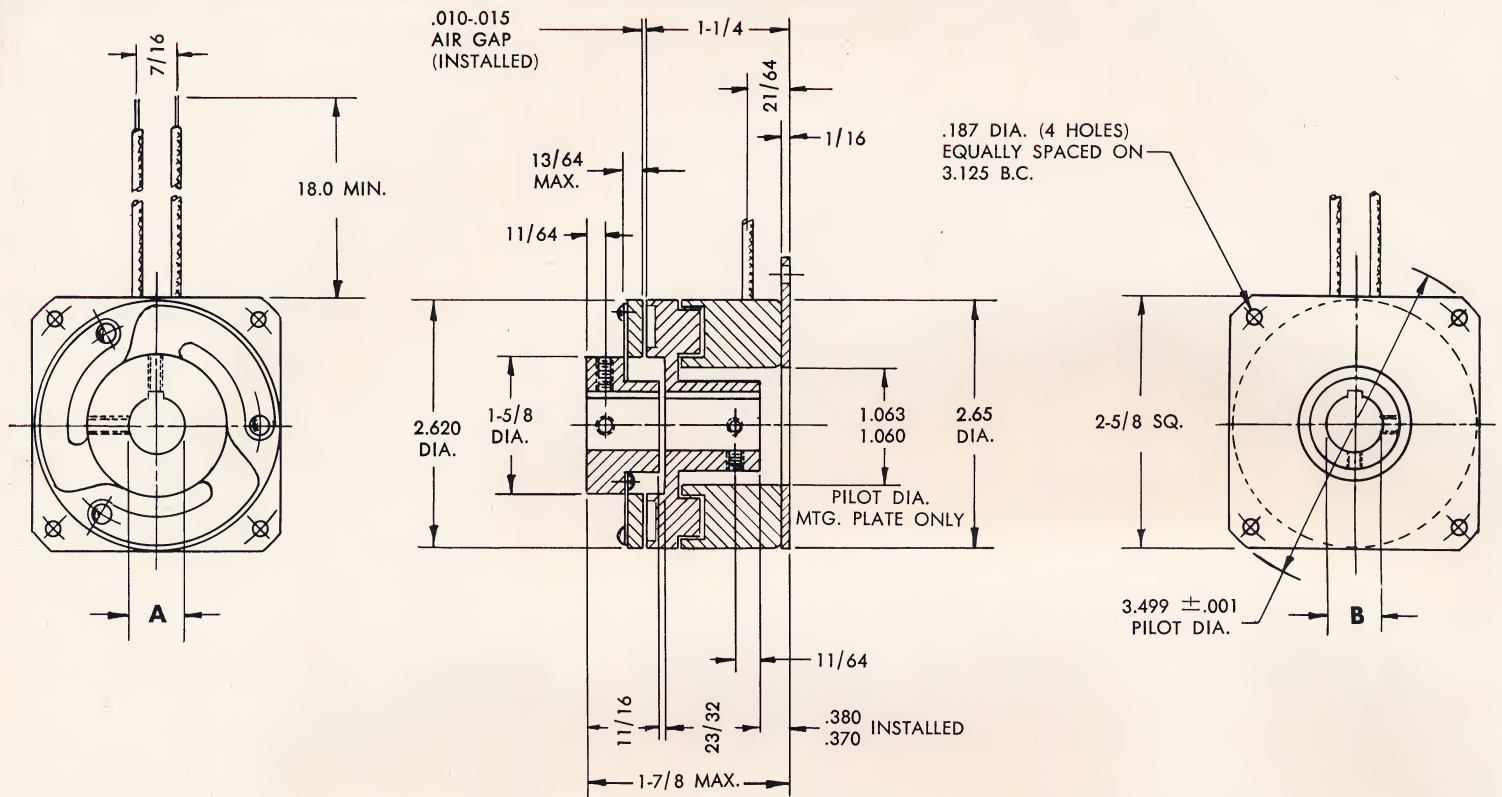
CUSTOMER SHALL MAINTAIN:

1. CONCENTRICITY OF FIELD MOUNTING PILOT DIAMETER WITH ROTOR MOUNTING SHAFT WITHIN .005 TIR.
2. SQUARENESS OF FIELD MOUNTING FACE WITH SHAFT .003 TIR.



CLUTCH COUPLING

MODEL ECA-26CC SERIES



FOR SPLIT SHAFT APPLICATIONS—CLUTCH COUPLING

ARMATURE HUB			ROTOR HUB			**
BORE	KEY-WAY	A	BORE	KEY-WAY	B	COIL VOLTAGE
* .376 .375	3/32 X 3/64	— 6	.376 .375	3/32 X 3/64	— 6	90 V. OR 28 V.
.438 .437	1/8 X 1/16	— 7	.501 .500	1/8 X 1/16	— 8	
* .501 .500		— 8	.626 .625	3/16 X 1/16 FOR 3/16 X 1/8 FLAT KEY	—10	
.563 .562		— 9				
* .626 .625	3/16 X 3/32	—10				
.688 .687		—11				
* .751 .750	3/16 X 1/16 FOR 3/16 X 1/8 FLAT KEY	—12				

CUSTOM
1. CONCENTRIC
ETER WITH
TIR.

*BORES CARRIED IN STOCK. OTHER BORES AVAILABLE ON REQUEST.

**OTHER COIL VOLTAGES AVAILABLE ON REQUEST.

CUSTOMER SHALL MAINTAIN:

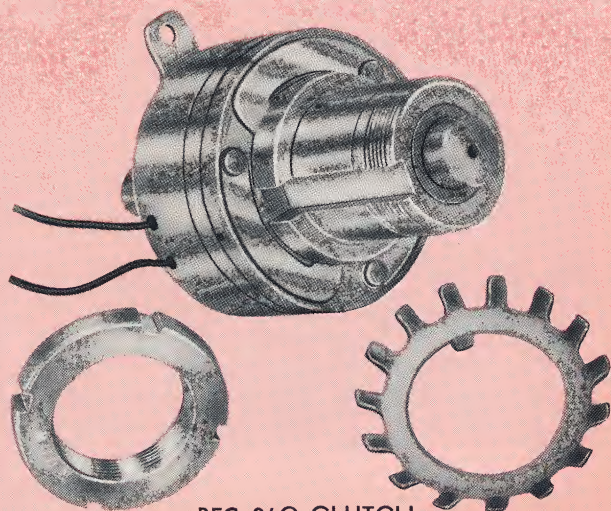
1. CONCENTRICITY OF FIELD MOUNTING PILOT DIAMETER WITH ROTOR MOUNTING SHAFT WITHIN .005 TIR.
2. SQUARENESS OF FIELD MOUNTING FACE WITH SHAFTS .003 TIR.
3. CONCENTRICITY BETWEEN SHAFTS WITHIN .005 TIR.
4. INITIAL SETTING OF .010-.015 AIR GAP BETWEEN FRICTION FACE.



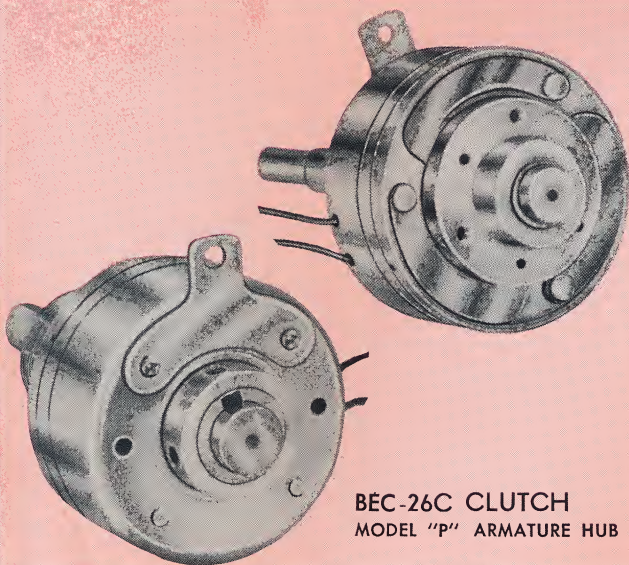
ELECTROID
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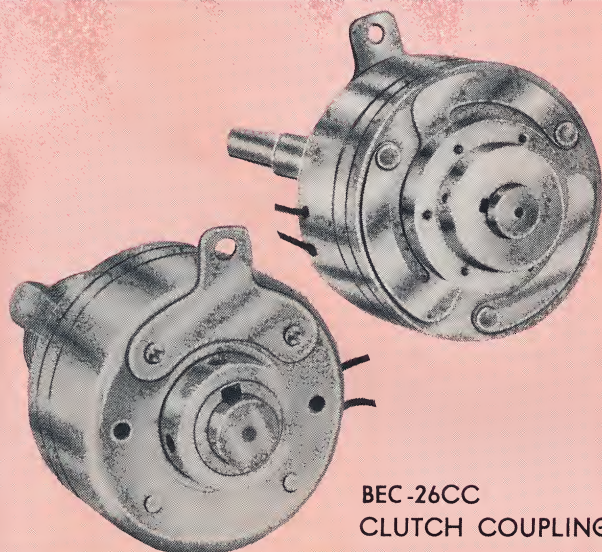
*Manufacturers of
Precision Electro-Magnetic Devices and Solenoids*



BEC-26C CLUTCH
MODEL "N" ARMATURE HUB



BEC-26C CLUTCH
MODEL "P" ARMATURE HUB



BEC-26CC
CLUTCH COUPLING

Magnetic

BEARING MOUNTED

CLUTCHES

CLUTCH COUPLINGS

FOR FRACTIONAL HORSEPOWER

BEC-26

SIZE
DIA.
2-5/8"

RATED
TORQUE
75 LB. IN.

FEATURES

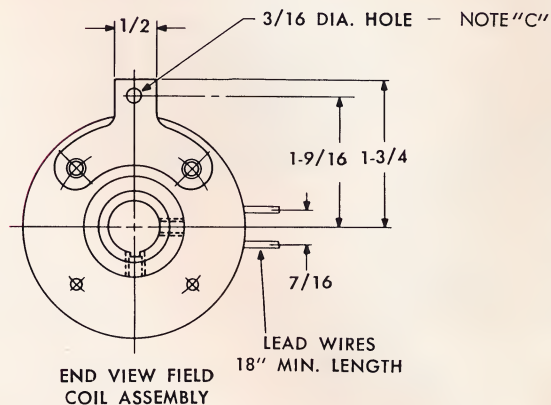
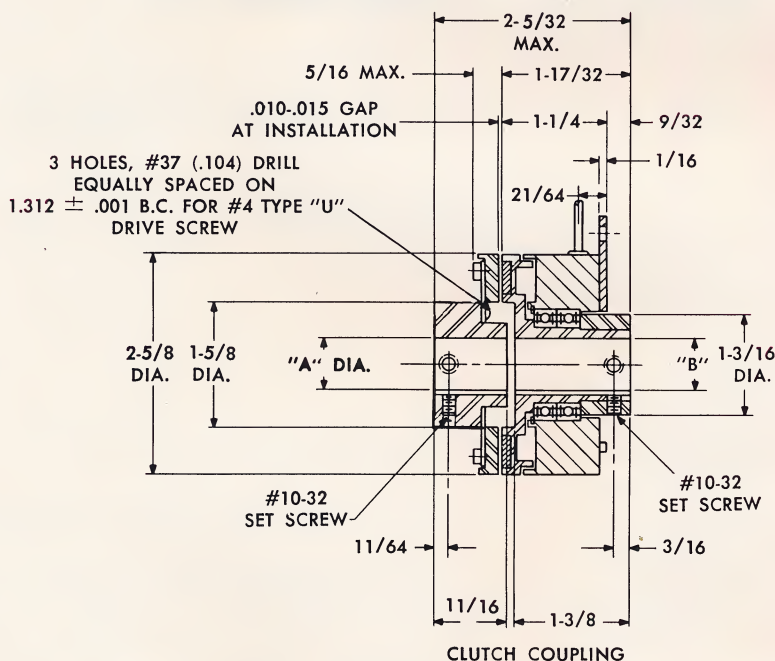
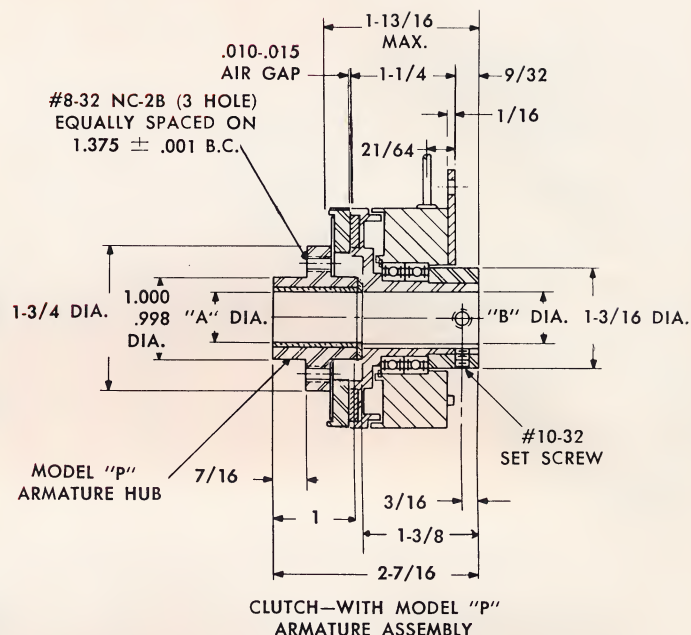
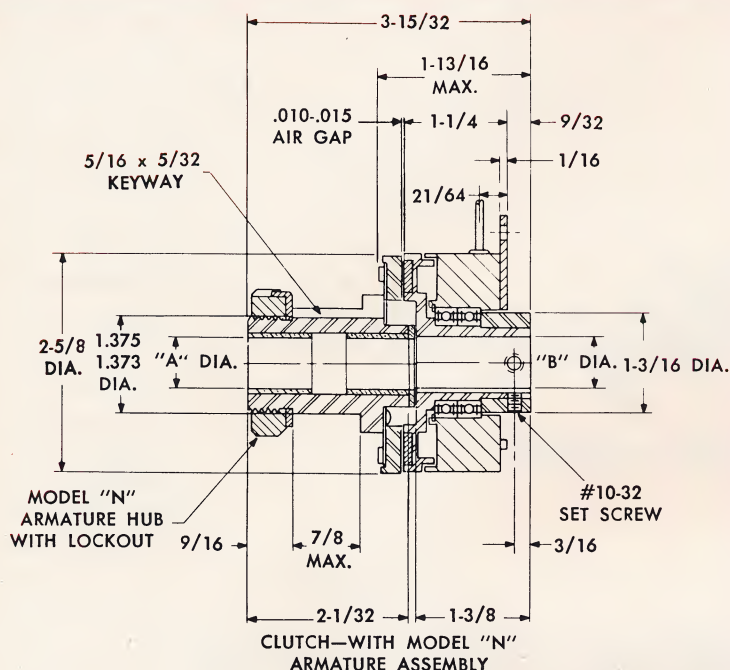
1. Zero backlash armature.
2. Precision Ball Bearings.
3. Stationary field coil — no slip rings or brushes.
4. Coil — Epoxy resin encapsulated, vibration proof.
5. Bearing mounted field allows mounting without pilots.
6. Wide selection of shaft diameters.
7. Fast operating
8. Unit can be readily modified to meet your space or mounting requirements.
9. For special applications, consult our Engineering Department for specific recommendations.

TECHNICAL DATA

1. Rated Torque (static) 75 lb.-in.
2. Operating Voltage—90 V.D.C.
28 V.D.C.
3. Rated Current—.090 amperes @ 90 V.D.C.
.295 amperes @ 28 V.D.C.
4. Weight: Armature Assembly (Coupling)—.40 lbs.
Armature Assembly (Clutch, Model "N" & "P")—1.00 lb.
Rotor Assembly—.44 lbs.
Field Assembly—.65 lbs.
5. Inertia: Armature Assembly (Coupling)—.33 lb.-in.²
Armature Assembly (Clutch, Model "N" & "P")—.627 lb.-in.²
Rotor Assembly—.270 lb.-in.²
6. Tentative Rated Speed—7500 RPM

CLUTCH • CLUTCH COUPLING

BEARING MOUNTED



MODEL	ARMATURE BORE "A" Designation	Bore	ROTOR BORE "B" Designation	Bore	KEYWAY	COIL VOLTAGE
BEC-26C "P"	6	.376 .375	6	.376 .375	3/32 x 3/64	28 VDC 90 VDC Other voltages available upon request.
	* 7	.438 .437	* 7	.438 .437		
BEC-26C "N"	8	.501 .500	8	.501 .500	1/8 x 1/16	
	* 9	.563 .562	* 9	.563 .562		
BEC-26CC	10	.626 .625			3/16 x 3/32	
BEC-26CC Only	*11	.688 .687			3/16 x 1/16 for 3/16 x 1/8 Key	
	12	.751 .750	10	.626 .625		

*Available on special order only.

NOTE: Designation numbers to be used as suffix to model number. See "How To Order" explanation.

CUSTOMER SHALL MAINTAIN:

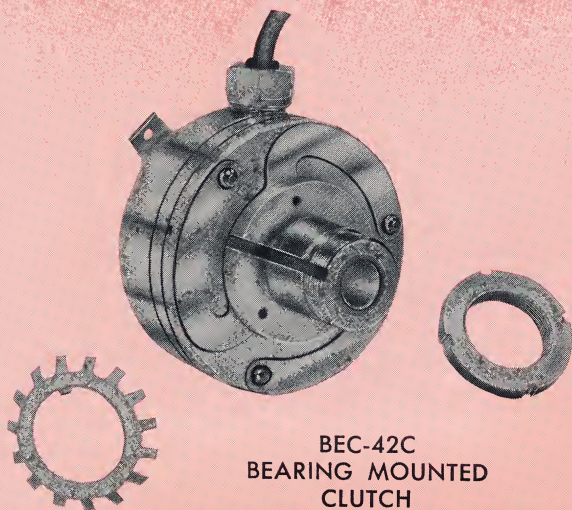
- Concentricity between Armature and Rotor shaft within .003.
- Initial setting of .010-.015 in. air gap between friction surfaces.
- Loose fit in 3/16" dia. hole. THIS IS IMPORTANT. This is for strain relief only and solid mounting will pre-load bearings.



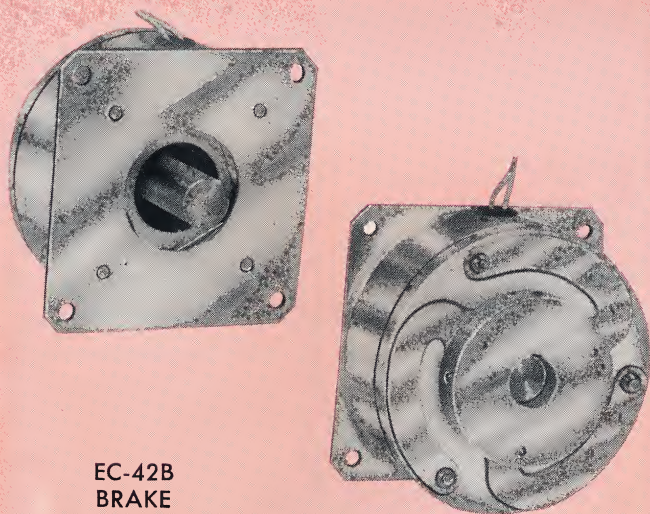
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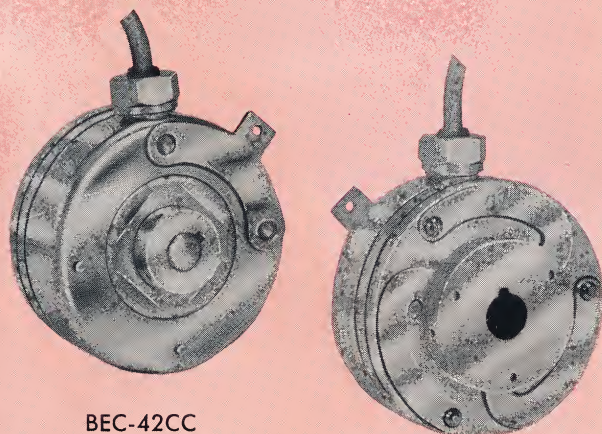
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BEC-42C
BEARING MOUNTED
CLUTCH



EC-42B
BRAKE



BEC-42CC
BEARING MOUNTED
CLUTCH COUPLING

Magnetic

CLUTCHES BRAKES CLUTCH COUPLINGS

EC-42

SIZE
DIA.

4-1/4"

RATED

TORQUE

240 LB.-IN.

FOR FRACTIONAL HORSEPOWER

FEATURES

1. Zero backlash armature.
2. Precision Ball Bearings.
3. Stationary field coil — no slip rings or brushes.
4. Coil — Epoxy resin encapsulated, vibration proof.
5. Wide selection of shaft diameters.
6. Fast operating.
7. Unit can be readily modified to meet your space or mounting requirements.
8. For special applications, consult our Engineering Department for specific recommendations.

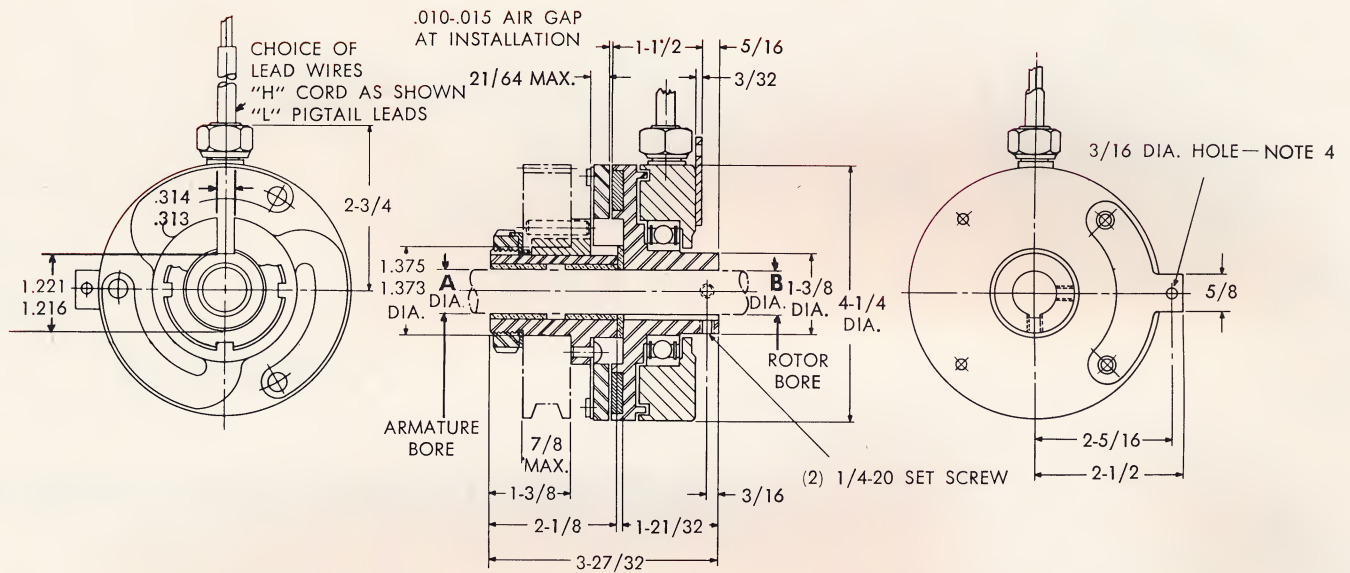
TECHNICAL DATA

1. Rated Torque (static) 240 lb.-ins.
2. Operating Voltage — 90 V.D.C.
28 V.D.C.
3. Rate Current — .106 amperes @ 90 V.D.C.
.45 amperes @ 28 V.D.C.
4. Weight: Armature assembly For Clutch 1.70 lbs.
Armature assembly For Clutch Coupling & Brake 1.40 lbs.
Rotor assembly (clutch & clutch coupling) 1.38 lbs.
Field assembly 2.00 lbs.
5. Inertia: Armature assembly For Clutch 4.05 lb.-in.²
Armature assembly For Clutch Coupling & Brake 2.77 lb.-in.²
Rotor assembly (clutch & clutch coupling) 2.55 lb.-in.²
6. Time of Engagement — 7½ milliseconds or less
7. Tentative Rated Speed — 5000 R.P.M.



CLUTCH

BEARING MOUNTED



MODEL BEC-42C

ARMATURE HUB		ROTOR HUB			COIL VOLTAGE
ARMATURE BORE	A	ROTOR BORE	B	KEYWAY	
.501 .500	-8	.501 .500	-8	1/8 x 1/16	28V.D.C. 90V.D.C.
.563 .562 *	-9	.563 .562 *	-9		
.626 .625	-10	.626 .625	-10	3/16 x 3/32	OTHER VOLTAGES AVAILABLE ON REQUEST
.688 .687 *	-11	.688 .687 *	-11		
.751 .750	-12	.751 .750	-12		
		.876 .875	-14		
		1.001 1.000	-16	1/4 x 1/8	

*AVAILABLE ON SPECIAL ORDER ONLY

CUSTOMER TO SPECIFY:

1. ARMATURE BORE AND ROTOR BORE
2. COIL VOLTAGE
3. TYPE OF LEADWIRES
"H" #18 AWG ST-600 CORD
"L" #18 AWG PIGTAIL LEADS
TERMINALS STANDARD
4. LOOSE FIT IN 3/16" DIA. HOLE. THIS IS IMPORTANT. THIS IS FOR STRAIN RELIEF ONLY AND SOLID MOUNTING WILL PRE-LOAD BEARINGS.

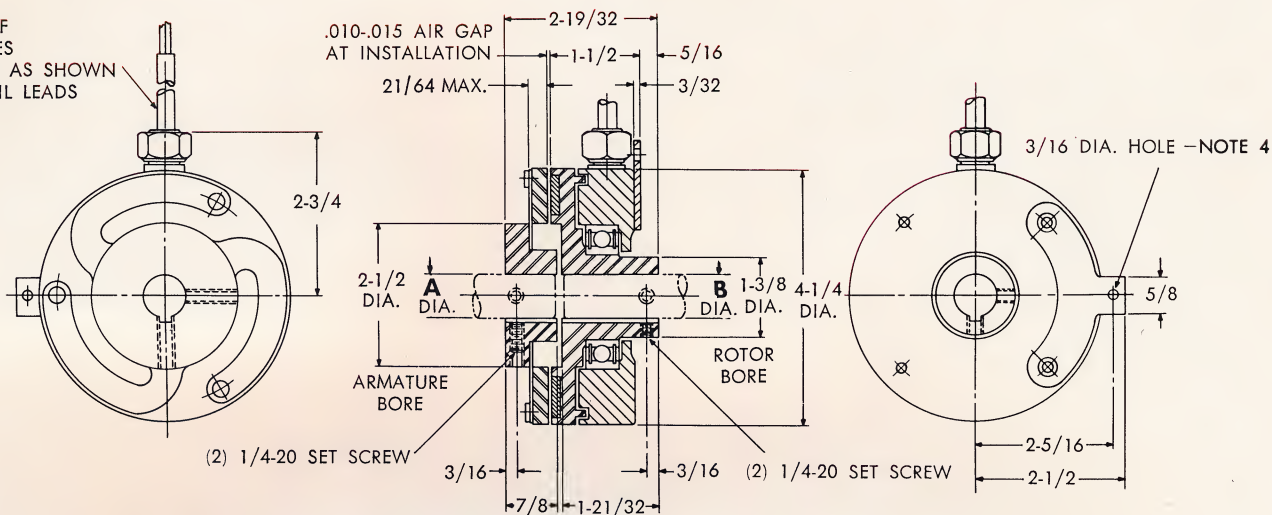
SEE "HOW TO ORDER" ON PAGE 8



CLUTCH COUPLING

BEARING MOUNTED

CHOICE OF
LEAD WIRES
"H" CORD AS SHOWN
"L" PIGTAIL LEADS



MODEL BEC-42CC

ARMATURE HUB			ROTOR HUB			COIL VOLTAGE
ARMATURE BORE	A	KEYWAY	ROTOR BORE	B	KEYWAY	
.501 .500	-8	1/8 x 1/16	.501 .500	-8	1/8 x 1/16	28V.D.C. 90V.D.C.
.563 .562 *	-9		.563 .562 *	-9		
.626 .625	-10	3/16 x 3/32	.626 .625	-10	3/16 x 3/32	OTHER VOLTAGES AVAILABLE ON REQUEST
.688 .687 *	-11		.688 .687 *	-11		
.751 .750	-12		.751 .750	-12		
.876 .875	-14		.876 .875	-14		
1.001 1.000	-16	1/4 x 1/8	1.001 1.000	-16	1/4 x 1/8	

*AVAILABLE ON SPECIAL ORDER ONLY

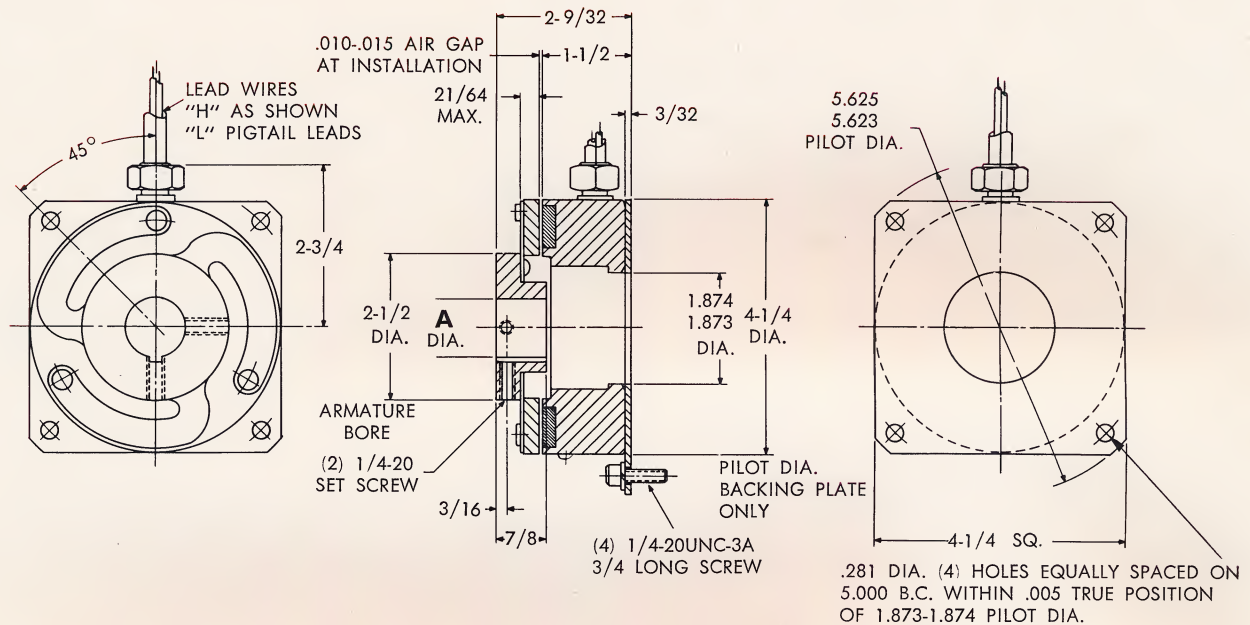
CUSTOMER TO SPECIFY:

1. ARMATURE BORE AND ROTOR BORE
2. COIL VOLTAGE
3. TYPE OF LEADWIRES
"H" #18 AWG ST-600 CORD
"L" #18 AWG PIGTAIL LEADS
TERMINALS STANDARD
4. LOOSE FIT IN 3/16" DIA. HOLE. THIS IS IMPORTANT. THIS IS FOR STRAIN RELIEF ONLY AND SOLID MOUNTING WILL PRE-LOAD BEARINGS.

SEE "HOW TO ORDER" ON PAGE 8



BRAKE



MODEL EC-42B

ARMATURE HUB			COIL VOLTAGE
ARMATURE BORE	A	KEYWAY	
.501 .500	-8	1/8 x 1/16	28V.D.C. 90V.D.C.
.563 .562 *	-9		
.626 .625	-10	3/16 x 3/32	OTHER VOLTAGES AVAILABLE ON REQUEST
.688 .687 *	-11		
.751 .750	-12		
.876 .875	-14		
1.001 1.000	-16	1/4 x 1/8	

*AVAILABLE ON SPECIAL ORDER ONLY

CUSTOMER TO SPECIFY:

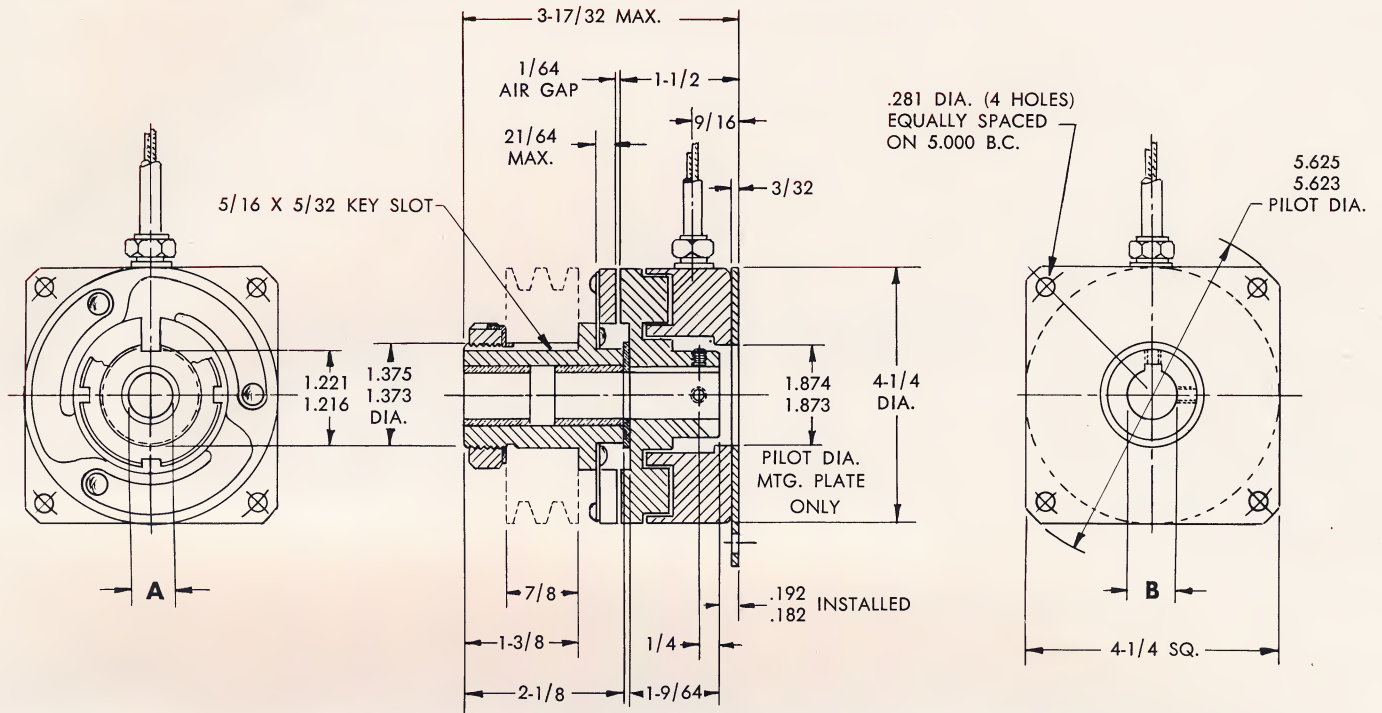
1. ARMATURE BORE
2. COIL VOLTAGE
3. TYPE OF LEADWIRES
 - "H" #18 AWG ST-600 CORD
 - "L" #18 AWG PIGTAIL LEADS
 - TERMINALS STANDARD

SEE "HOW TO ORDER" ON PAGE 8



CLUTCH

MODEL ECA-42C FLANGE MOUNTED



FOR THRU SHAFT APPLICATIONS—CLUTCH

MODEL ECA-42C "N"

ARMATURE HUB		ROTOR HUB		
CODE DESIGNATION	A DIA.	CODE DESIGNATION	B DIA.	KEYWAY
— 8	.501 .500	— 8	.501 .500	1/8 X 1/16
*— 9	.563 .562	*— 9	.563 .562	
—10	.626 .625	—10	.626 .625	3/16 X 3/32
*—11	.688 .687	*—11	.688 .687	
—12	.751 .750	—12	.751 .750	
		—14	.876 .875	
		—16	1.001 1.000	1/4 X 1/8

*SPECIAL ORDER ONLY

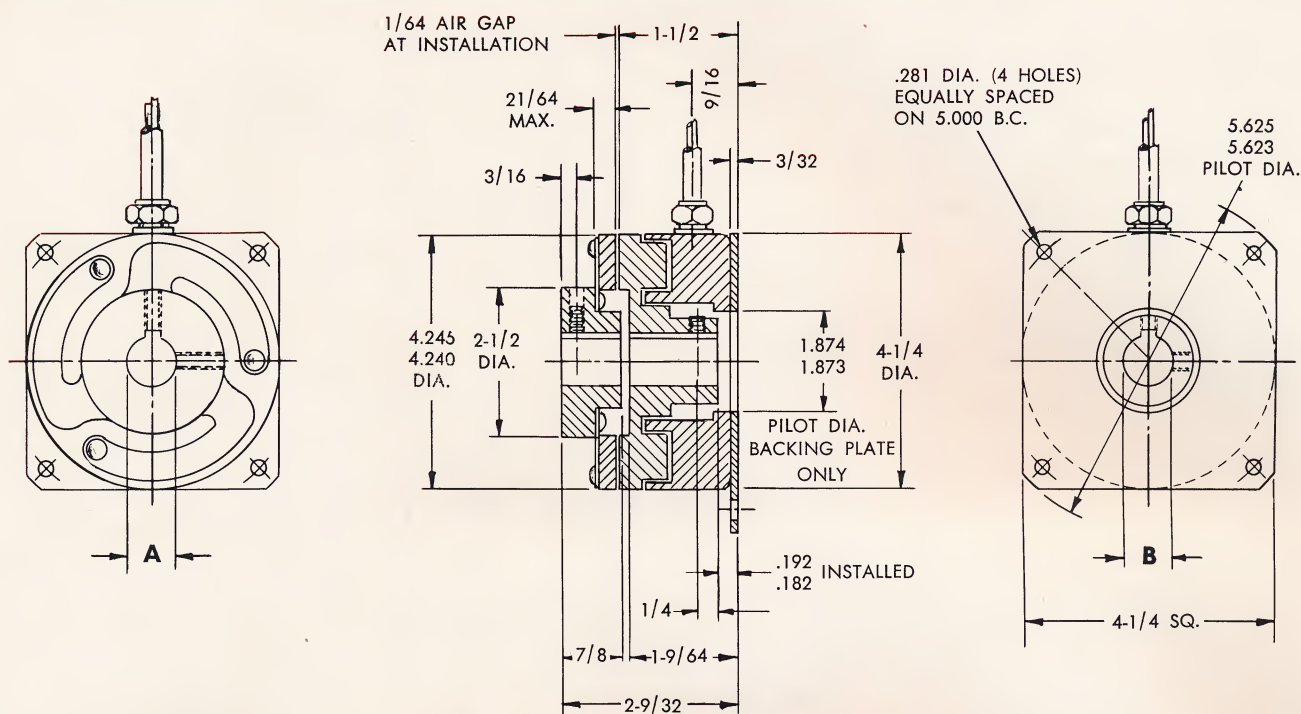
CUSTOMER SHALL MAINTAIN:

- CONCENTRICITY OF FIELD MOUNTING PILOT DIAMETER WITH ROTOR MOUNTING SHAFT WITHIN .005 TIR.
- SQUARENESS OF FIELD MOUNTING FACE WITH SHAFT .003 TIR.



CLUTCH COUPLING

MODEL ECA-42CC FLANGE MOUNTED



FOR SPLIT SHAFT APPLICATIONS—CLUTCH COUPLING

ARMATURE HUB			ROTOR HUB		
CODE DESIGNATION	A DIA.	KEYWAY	CODE DESIGNATION	B DIA.	KEYWAY
— 8	.501 .500	1/8 X 1/16	— 8	.501 .500	1/8 X 1/16
*— 9	.563 .562		*— 9	.563 .562	
—10	.626 .625	3/16 X 3/32	—10	.626 .625	3/16 X 3/32
*—11	.688 .687		*—11	.688 .687	
—12	.751 .750		—12	.751 .750	
—14	.876 .875		—14	.876 .875	
—16	1.001 1.000	1/4 X 1/8	—16	1.001 1.000	1/4 X 1/8

*SPECIAL ORDER ONLY

CUSTOMER SHALL MAINTAIN:

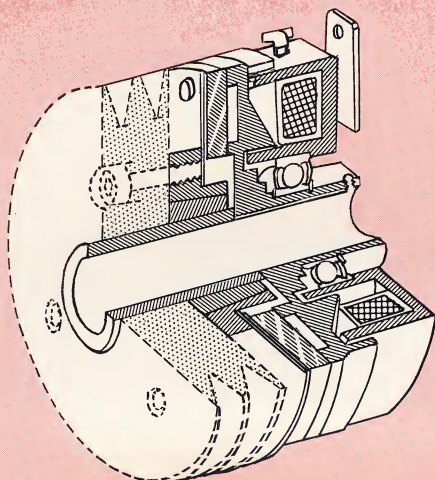
- CONCENTRICITY OF FIELD MOUNTING PILOT DIAMETER, WITH ROTOR MOUNTING SHAFT WITHIN .003 TIR.
- SQUARENESS OF FIELD MOUNTING PILOT DIAMETER, WITH ROTOR SHAFT WITHIN .003 TIR.
- ARMATURE SHAFT "A" AND ROTOR SHAFT "B" TO BE CONCENTRIC WITHIN .003 TIR.



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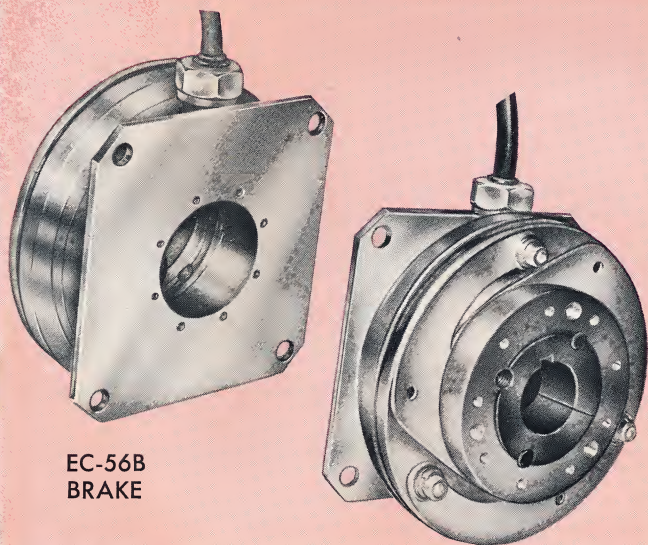
Magnetic

CLUTCHES BRAKES CLUTCH COUPLINGS FOR FRACTIONAL HORSEPOWER

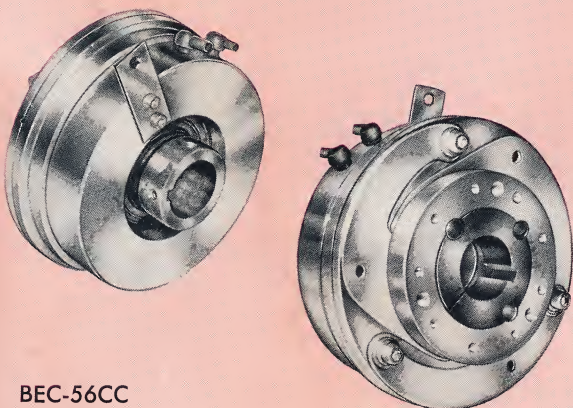
EC-56

SIZE
DIA.
5-5/8"

RATED
TORQUE
600 LB.-IN.



EC-56B
BRAKE



BEC-56CC
BEARING MOUNTED
CLUTCH COUPLING

FEATURES

1. Zero backlash armature.
2. Precision Ball Bearings.
3. Stationary field coil — no slip rings or brushes.
4. Coil — Epoxy resin encapsulated, vibration proof.
5. Wide selection of shaft diameters.
6. Fast operating.
7. Unit can be readily modified to meet your space or mounting requirements.
8. For special applications, consult our Engineering Department for specific recommendations.

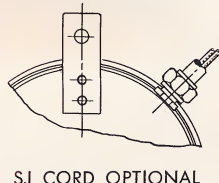
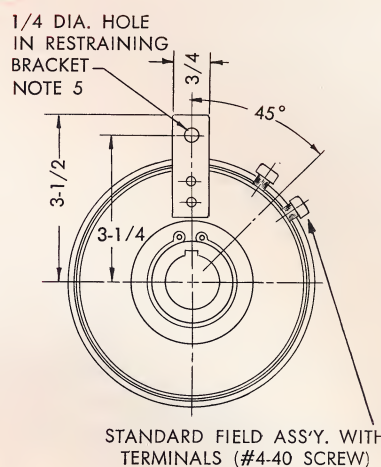
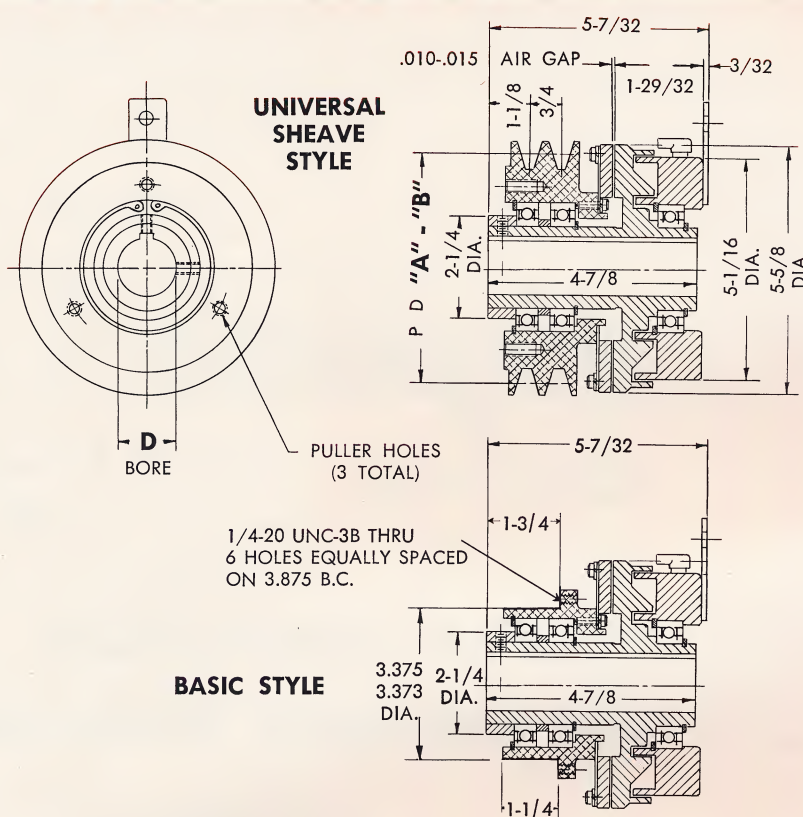
TECHNICAL DATA

1. Rated Torque (static) 600 lb.-ins.
2. Operating Voltage—90 V.D.C.
24 V.D.C.
3. Rate Current— .35 amperes @ 90 V.D.C.
1.12 amperes @ 28 V.D.C.
4. Weight: Armature assembly For Clutch 2.2 lbs.
Armature assembly For Clutch Coupling and Brake 2.8 lbs.
Rotor assembly (clutch and clutch coupling) 4.0 lbs.
Field assembly 3.95 lbs.
5. Inertia: Armature assembly For Clutch .0562 lb.-ft.²
Armature assembly For Clutch Coupling and Brake .0501 lb.-ft.²
Rotor assembly (clutch and clutch coupling) .099 lb.-ft.²
6. Time of Engagement—7-1/2 milliseconds or less
7. Tentative Rated Speed—4000 R.P.M.



CLUTCH

UNIVERSAL SHEAVE OR BASIC STYLE



MODEL SEC-56C

SHEAVE SPECIFICATIONS		
PITCH DIA.		NO. OF BELTS
A	B	
5.0	5.4	2
5.4	5.8	2
5.8	6.2	2

ROTOR SPECIFICATIONS	
D BORE	KEYWAY
.875—.876	3/16 x 3/32
1.000—1.001	1/4 x 1/8
1.250—1.251	1/4 x 1/8

COIL DATA	
VOLTAGE	AMPERES
90	.35
28	1.12

EXAMPLE: SEC-56C — 5.4 — 20 — H — (90V)

5-5/8 DIA. CLUTCH SHEAVE

5.4 PITCH DIA. SHEAVE

ROTOR BORE "D"
—20 = OR 1.250

ADD "H" FOR SJ CORD
OTHERWISE UNIT FURNISHED
WITH TERMINALS

CUSTOMER TO SPECIFY:

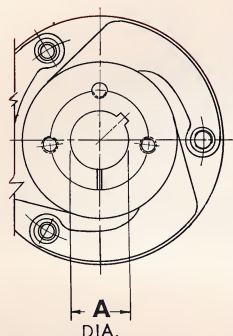
1. SHEAVE P.D. OR SPROCKET DIMENSION.
2. ROTOR BORE **D** (CODED IN SIXTEENTHS).
3. COIL VOLTAGE.
4. TYPE OF ELECTRICAL CONNECTION
TERMINALS (#4-40) (STANDARD)
STYLE "H" SJ CORD (OPTIONAL).
5. ANTI-ROTATION TAB REQUIRES LOOSE FIT
IN 1/4" DIA. HOLE. THIS IS IMPORTANT. THIS
IS FOR STRAIN RELIEF ONLY AND SOLID
MOUNTING WILL PRE-LOAD BEARING.
6. SELECT EITHER "BASIC" STYLE OR
"UNIVERSAL SHEAVE" STYLE

COIL VOLTAGE

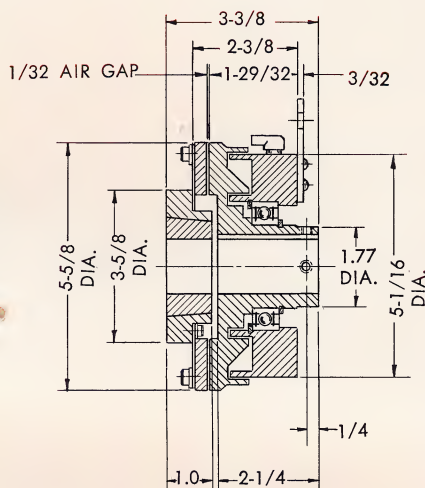


CLUTCH COUPLING

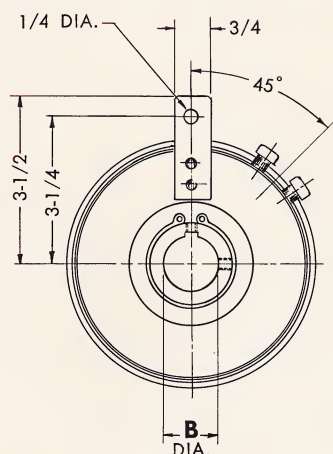
BEARING MOUNTED



TAPER LOCK BUSHING
BORE SIZES AVAILABLE
FROM 1/2 TO 1-5/8 DIA.
IN 1/16 INCREMENTS



NOTE 4



SJ CORD OPTIONAL

MODEL BEC-56CC

KEYWAY SPECIFICATIONS FOR ARMATURE TAPER LOCK BUSHING

DIA. A	KEYWAY
1/2 TO 9/16	1/8 x 1/16
5/8 TO 7/8	3/16 x 3/32
15/16 TO 1-1/4	1/4 x 1/8
1-5/16 TO 1-3/8	5/16 x 5/32
1-7/16 TO 1-1/2	3/8 x 3/16
1-9/16 TO 1-5/8	3/8 x 3/16

KEYWAY SPECIFICATIONS FOR ROTOR BORE

CODE NO.	DIA. B	KEYWAY
-12	.750-.751	3/16 x 3/32
-14	.875-.876	3/16 x 3/32
-15	.937-.938	1/4 x 1/8
-16	1.000-1.001	1/4 x 1/8
-18	1.125-1.126	1/4 x 1/8
-20	1.250-1.251	1/4 x 1/8

CUSTOMER TO SPECIFY:

1. ARMATURE BORE **A** AND ROTOR BORE **B**
(CODED IN SIXTEENTHS)
2. COIL VOLTAGE
3. TYPE OF ELECTRICAL CONNECTION (SAME AS NOTE 4 ON PAGE 36)
4. FOR ORDERING INFORMATION SEE PAGE 8.

TORQUE VALUES (LB.-FT.) RPM

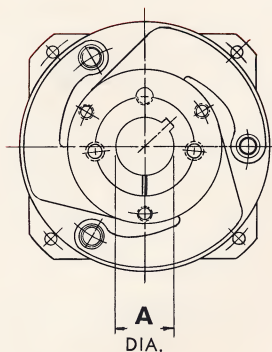
STATIC	300	600	900	1200	1800	2400	3000	3500	4000
50	44	39	34	31	26	22	20	19	18

CUSTOMER SHALL MAINTAIN:

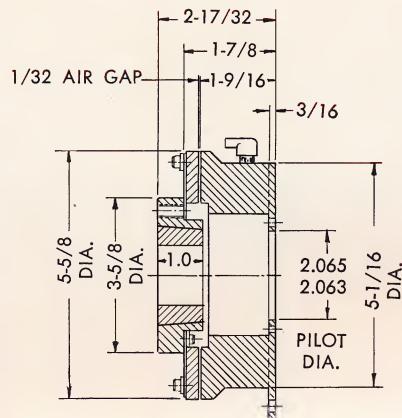
1. ANGULAR ALIGNMENT OF SHAFTS
WITHIN 1/2° (.007 TIR).
2. CONCENTRICITY BETWEEN SHAFTS
WITHIN .005 TIR.
3. INITIAL SETTING OF AIR GAP
BETWEEN ARMATURE AND ROTOR.
4. ANTI-ROTATION TAB REQUIRES LOOSE FIT
IN 1/4" DIA. HOLE. THIS IS IMPORTANT. THIS
IS FOR STRAIN RELIEF ONLY AND SOLID
MOUNTING WILL PRE-LOAD BEARING.



BRAKE

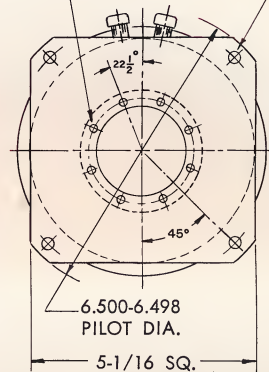


TAPER LOCK BUSHING
BORE SIZES AVAILABLE
FROM 1/2 TO 1-5/8 DIA.
IN 1/16 INCREMENTS



INSIDE MOUNT
.184±.003 DIA.
8 HOLES EQUALLY
SPACED ON 2.375
B.C.

OUTSIDE MOUNT
.391±.003 DIA.
.002 DIA.
4 HOLES EQUALLY
SPACED ON 5.875
B.C.



SJ CORD OPTIONAL

MODEL EC-56B

KEYWAY SPECIFICATIONS FOR ARMATURE TAPER LOCK BUSHING

*DIA A	KEYWAY
1/2 TO 9/16	1/8 x 1/16
5/8 TO 7/8	3/16 x 3/32
15/16 TO 1-1/4	1/4 x 1/8
1-5/16 TO 1-3/8	5/16 x 5/32
1-7/16 TO 1-1/2	3/8 x 3/16
1-9/16 TO 1-5/8	3/8 x 3/16

CUSTOMER TO SPECIFY:

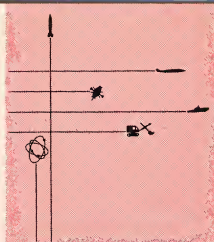
1. ARMATURE BORE A
(CODED IN SIXTEENTHS)
2. COIL VOLTAGE
3. TYPE OF ELECTRICAL CONNECTION
4. FOR ORDERING INFORMATION SEE PAGE 8.

TORQUE VALUES (LB.-FT.) RPM

STATIC	300	600	900	1200	1800	2400	3000	3500	4000
50	44	39	34	31	26	22	20	19	18

CUSTOMER SHALL MAINTAIN:

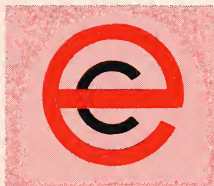
1. CONCENTRICITY OF FIELD MOUNTING DIAMETER WITH SHAFT
WITHIN .005 TIR.
2. SQUARENESS OF FIELD MOUNTING FACE WITH SHAFT WITHIN
.007 TIR.
3. INITIAL SETTING OF 1/32 AIR GAP.



ELECTROID CORPORATION

95 PROGRESS STREET • UNION, NEW JERSEY 07083

Telephone 201-686-8290



CLUTCH--BRAKE SELECTION DATA SHEET

For an analysis of your clutch and brake problems please fill in questionnaire and return to us. You incur no obligation by submitting the data. When data is unknown or depends on finalizing of design, please estimate and indicate same.

Your Company Date

Street City State

A. Type of equipment on which clutches or brakes are to be used

B. Torque requirements:

..... lb.-in., speed at clutch or brake RPM.

C. Inertia of the rotating parts lb.-ft.² RPM

Rate of deceleration desired: stop time sec. from RPM

D. Frequency of stops

E. Complete operating cycles

F. Desired operation life

G. Type of motor, HP and RPM Voltage DC.

Individual submitting the above data

Name

Title

Telephone No. (Area Code)

**REVERSE SIDE FOR DESIGN SKETCH OR FURTHER CLARIFICATION
OF YOUR REQUIREMENTS**

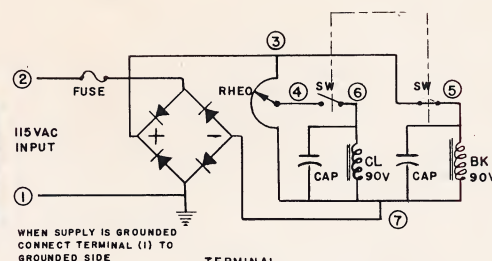
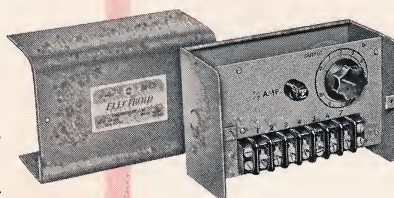
**THIS SIDE FOR DESIGN SKETCH OR FURTHER CLARIFICATION
OF YOUR REQUIREMENTS**

TEAR OUT SHEET

ELECTRIC CONTROLS

Electroid's controls were designed specifically for use with Electroid brakes and clutches. They convert AC voltage into the DC voltage necessary to operate these units. They are compact and convenient to use—connect easily to your AC line, brake—clutch, and switch. Such an Electroid system provides you with highest rate of reliability.

C-50

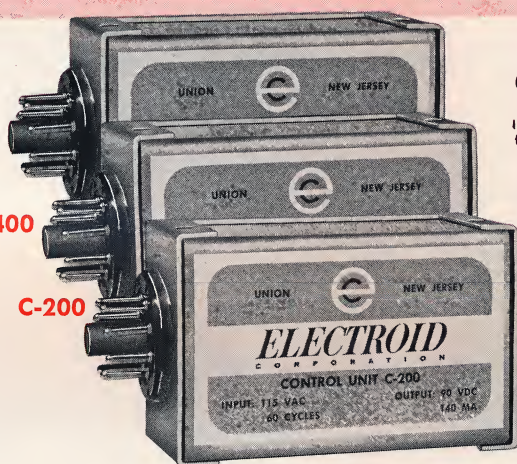


Enclosed Variable Torque Control
 Input=115 V.A.C.-25-60cy.
 Output=90 V.D.C.
 Rating=.5 Amp.

C-500

C-400

C-200



C-200

Octal Plug-In Full Wave Selenium Rectifier with Contact Protection
 Input = 115 V.A.C.-25-60 cy.
 Output = 90 V.D.C.
 Rating = 140 MA.

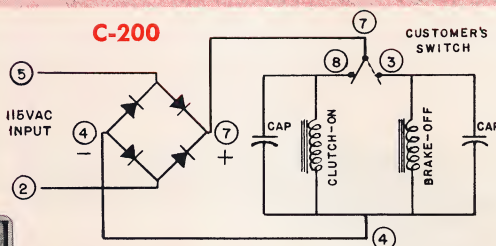
C-400

Octal Plug-In Rectifier
 Input = 115 V.A.C.-25-60 cy.
 Output = 90 V.D.C.
 Rating = .5 Amp.

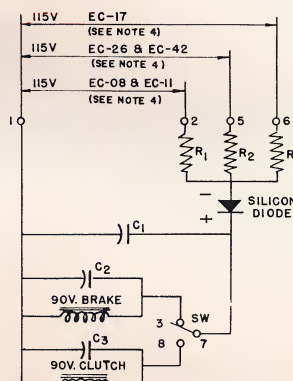
C-500

Octal Plug-In Full Wave Selenium Rectifier with Contact Protection
 Input = 115 V.A.C.-25-60 cy.
 Output = 90 V.D.C.
 Rating = 1.5 Amps

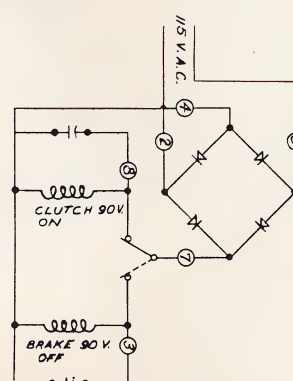
C-200



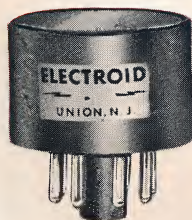
C-400



C-500

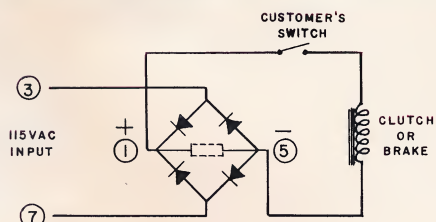


C-100-1

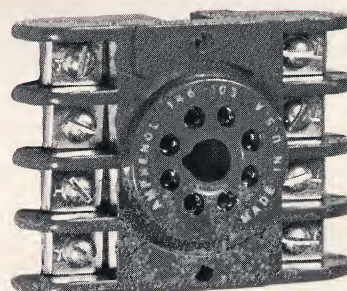


Octal Plug-In Silicon Full Wave Bridge Rectifier
 Input = 115 V.A.C.-25-60 cy.
 Output = 95-105 V.D.C.
 Rating = 1.5 Amp. (Continuous Duty)
 2. Amps. (Intermittent Duty)

C-100-1



C-100-2



Prewired Industrial Octal Socket — use with C-100-1, C-200, C-400 and C-500 Control Units



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